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ORIGINAL ARTICLES.

THE RELATIVE FREQUENCY OF FIBROID PROCESSES IN THE DARK-SKINNED RACES.

BY EDWARD A. BALLOCH, M.D.,

INSTRUCTOR IN MINOR SURGERY, MEDICAL DEPARTMENT OF HOWARD UNIVERSITY, WASHINGTON, D. C.

IN stating that the color of the skin is but a minor point of difference between the white-skinned and dark-skinned races, one gives expression to a fact that must have impressed itself upon every observer who has had much to do with the two races. One need have but a limited experience in this connection to enable him to note many and important variations, and, while both races have probably developed from the same primitive ancestor, the development has been along different lines, and has resulted in two distinct types. Some forty years ago this matter was the subject of much controversy in the medical journals of that period, but the scientific aspects of the question were obscured by its political and sentimental sides. The time was not then ripe, but I think we have now reached a period when we can consider this question without passion. We have, in this subject, a field of pathology exceedingly interesting, but little worked, and wholly our own. We owe it to ourselves, not less than to science in general, to give a good account of our stewardship in this matter. It is important that this be done now, as, with changed environments and changed conditions, the types of disease are changing, and their characteristics should be fixed as soon as possible.

It shall be my endeavor, in this contribution, to point out a few of the differences between the two races, and to try to show that the characteristic pathologic difference between the two is the remarkable tendency to fibroid processes to which the dark races are subject.

The negro differs from the Caucasian anatomically, physiologically, and pathologically. The comparative anatomy of the two races has never been systematically studied, and it is a matter for congratulation that the Association of American Anatomists has taken this question in hand and has issued a circular asking that practical anatomists give their attention to it, and keep a careful record of all variations and anomalies. Many isolated facts, however, have from time to time been put on record, and these fragments show that much may be expected from a more extended and careful study. It must be premised, however, that the pure negro type is exceedingly rare in this country, and on this account observations as to agreements and contrasts are very difficult owing to the comparative infrequency of typical specimens. The larger the admixture of white blood, the closer the approach in every way to the Caucasian type.

Among others, Parker[1] has noted, in two among thirty-three negro brains examined by him, the existence of an internal *pli du passage*, as well marked as in any of the Simiadæ. This convolution has been uniformly present in all the Simiadæ thus far examined, except two, but prior to Parker's discovery, it had never before been found in man in a fully developed condition, and its absence had been regarded as a distinguishing characteristic of human as compared with anthropoid brains.

Baker[2] regards a perforation of the olecranon fossa, found in South African and other low tribes, as a reversion toward the anthropoids. He also describes bands of deep cervical fascia which alone remain to testify to the former existence of the *levator claviculæ*, a muscle present in most mammals, and one which he has frequently found almost complete in the negro. In the pithecoid apes the rhomboid muscle extends to the occipital bone, and in anthropoid apes to the spinous process of the fourth cervical vertebra (Broca). In a negro of Mozambique, Chudzinski[3] found this muscle to extend to the third cervical vertebra, and in another negro subject to the spinous process of the fourth cervical vertebra. The same observer also notes[4] the presence in the negro of an independent fasciculus to the deltoid muscle, a characteristic of the primates.

The psoas parvus is another muscle present in nearly all mammals except man. Theile considers its absence to be the normal condition in man, stating that he found it only in one of twenty bodies in which especial search was made for it. Holden gives its frequency of occurrence as once in ten subjects. From a considerable experience in the dissection of colored subjects I am able to state that the absence of this muscle in them is the exception, and its presence, on both sides, and well developed, is the rule. There is no difference as regards the two sexes.

The osteologic peculiarities of the negro have been fairly well investigated. The skull is prognathous, with a facial angle of from 65° to 70°.

The parietal bones are thick. The zygomatic arches are wide, and the upper edge of the orbit projecting. The pelvis is long and narrow, the iliac bones less wide and more vertical. The tibia and fibula are more convex, and the os calcis is continued in a straight line with the other bones of the foot. The scapulæ are shorter and broader. The thigh and arm are rather shorter. While the leg is actually about the same in length, it is relatively smaller, owing to less average stature. The forearm is longer, both actually and relatively. The foot is an eighth, and the hand a twelfth, longer than in Europeans. Humphry's tables are as follows:

	European, average of 25	Negro, average of 25	Bosjesman, average of 3	Idiot, in Berlin Museum.
Height . . .	65 inches	62 inches	54 inches	57 inches
Middle point of skeleton,	Symphysis pubis	1 in. below pubis	Symphysis	Symphysis
Length of spine	22.2	19.3	17.0	19.5
Circumference of skull,	20.5	19.8	19.6	13.5
Humerus . .	12.7	12 1	10.8	12.0
Radius . . .	9.2	9.4	8.3	8.8
Hand . . .	7.3	7.7	6.0	7.0
Femur . . .	17.88	17.0	15.0	16.0
Tibia . . .	14.4	14.4	12.9	12.5
Foot. . . .	10.6	11.11	7.5	8.5
Pelvis, transverse diameter of,	5.2	4.6	4.4	5.0
Pelvis, antero-posterior diameter of,	4.3	4.1	3.5	3.8

Or, reduced to a scale of 100:

	European.	Negro.	Bosjesman.	Idiot.
Height . . .	100.00	100.00	100.00	100.00
Length of spine	34.15	31.13	31.48	34.21
Circumference of skull.	31.54	31.94	36.29	23.68
Humerus . .	19.54	19.52	20.00	21.05
Radius . . .	14.15	15.16	15.37	13.43
Hand . . .	11.23	12.42	11.11	12.28
Femur . . .	27.51	27 40	27.78	28.07
Tibia . . .	22.15	23.23	23.89	21.92
Foot. . . .	16.03	17.90	13.78	14.96
Pelvis, transverse diameter of,	8.00	7.42	8.15	8.94
Pelvis, antero-posterior diameter of,	6.61	6.61	6.48	6.66

It is probable that many other anatomic differences between the two races exist, which have escaped observation, owing to lack of attention. My own observation is, that in the negro the brain is relatively smaller, the liver larger, the lung-capacity smaller, and the vascular area greater. Enough has been shown, I think, to demonstrate that the anatomic variations in the colored race are neither few nor unimportant, and it is hoped that, the attention of American anatomists having been drawn to this subject, many new facts may be recorded.

The dominant physiologic peculiarity of the negro is the lessened sensibility of his nervous system. By this is meant a less acute response to external impressions. His ability to resist severe and prolonged exposure to the sun's rays is well known. As has been stated, the capillary circulation in the negro is believed to be relatively greater than in the white, though this belief lacks the confirmation of sufficient and accurate observation. If it be true, it is remarkable that this fact, in connection with a black skin and more numerous sweat-glands, tending as they all do to a more rapid cooling of the body, presents a condition so well adapted to existence in hot climates. The evolutionist will see in this the adaptation of the animal to its environment, and the acquirement of means necessary to resist external factors hostile to its continued existence. On account of this blunted sensibility of the nervous system the negro bears surgical operations remarkably well. He seldom suffers from shock, and wounds of all kinds heal with a quickness and certainty delightful to the surgeon. The mortality from capital operations is remarkably small. Possibly a part of this exemption may be explained on hygienic grounds. The comfort and good food of a well-regulated hospital, to the majority of patients of this class, are a decided improvement upon their ordinary surroundings and mode of life. But this explanation will not cover all cases, and, indeed, this recuperative tendency has been noticed under circumstances where the objection could not be urged. Given a white and a black man, taken, as far as possible, from similar hygienic surroundings, and let each be subjected to a similar operation, say the amputation of a leg, other things being equal, the white man will die and the black recover.

As is well known, the emotional side of the negro is well developed, and there is in him a certain tendency to fatalism which leads him to accept accidents and illness, with all their consequences, as parts of the inevitable, and to be borne without murmuring, as the dispensations of a higher power against which it is useless to struggle. But this trenches on the domain of psychology, and is foreign to the purpose of this essay.

In the matter of susceptibility to disease there is a marked difference between the two races. Of course, they touch at many points, and many of the seeming differences may be reconciled on the ground of different hygienic conditions; but after due allowance for errors of this description, there yet remains a body of fact valuable to the pathologist and anthropologist. My own experience in practice among the two races will warrant the following conclusions:

Tuberculous diseases are rife among the colored people. To such an extent is this true that I now make it a rule to ascribe to tuberculosis any obscure process in them not otherwise determinable. Whenever I have been able to secure post-mortem demonstra-tion in this class of cases I have generally found myself correct in my supposition. Particularly is this true of tuberculous peritonitis. Scrofula numbers many victims, and rickets is not unknown. Pneumonia is exceedingly fatal, a fact first noticed during the late Civil War, and confirmed many times since by numerous observers. Between July 1, 1875, and June 30, 1890, there were reported in the District of Columbia,[5] 1020 deaths from congestion of the lungs. Of these, 521 were among white, and 499 among colored persons. When it is considered that the white population is a little more than twice as large as the colored, the significance of these figures becomes apparent. In other words, had the number of each been equal, the mortality would have been 998 colored to 521 white. During the year 1890 the deaths from pneumonia, in the same locality, numbered 416, of which 181 were among white and 235 among colored, being in the proportion of 1.065 to 1000 for the former and 2.937 to 1000 for the latter. The per mille rate from all diseases of the respiratory organs during 1890 was 1.905 in the white, and 5.175 in the colored, while that from tuberculous diseases generally was 2.558 and 6.825, respectively. These figures speak for themselves.

Hemorrhoids and rectal diseases are very infrequent in the colored race. Diseases of the skin are about as common as in the whites. Also, there is not much difference in the matter of the zymotic diseases. The negro enjoys a remarkable immunity from affections of the nervous system, but according to Witmer and some other authorities, the proportion of insane is increasing rapidly. This is ascribed to the changed conditions under which the negroes are living since the abolition of slavery. It is probable, however, that the lack of accurate statistics before the year 1880 precludes any certain conclusions in this respect, and more time must elapse before generalizations are possible. Chorea is almost never seen, and I cannot recall a single instance of locomotor ataxia in this race. The arcus senilis is very common and is developed early, often at forty years of age. Pterygium is almost universal. Among 138 colored persons examined for this affection I found it in 102.

The negro shows a remarkable freedom from malignant disease. Epithelioma is almost never seen, and carcinoma but rarely. In a recent number of THE MEDICAL NEWS, Kelly notes several cases of epithelioma of the cervix uteri seen in colored persons, one of whom seemed to be a negress of perfectly pure blood. Sarcoma is the most frequent of the malignant neoplasms in negroes, a fact upon which I desire to lay especial stress, and to which I shall allude again later.

These opinions, based on my own observations, coincide in the main with those of such good observers as Tiffany,[6] Briggs, the late Christopher Johnston, and others, as expressed, in 1888, in a paper and in the discussion before the American Surgical Society. The greater facility in the healing of wounds possessed by the colored race has not escaped the attention of foreign observers who have been brought in contact with them. Thus Hillary,[7] an English surgeon who served with the colored troops during the late Civil War, noted this fact as a result of his experience among both classes of troops. After the war, he went to Canada and thence to Jamaica. In the latter locality his experience as to the more rapid healing of wounds in the blacks was confirmed. He also noted the fact that it was necessary to tie a greater number of vessels in an amputation in the case of a black than in the case of a white. After considerable study of the question he states it as his conviction that the circulation in the dark races is more branching and capillary, and that this relatively greater vascularity will explain the greater facility in the healing of wounds. This opinion coincides with my own observations.

Coming now from general to particular considerations, I desire to state as a pathologic axiom that fibroid processes are relatively more frequent in the dark races, so much more so, in fact, as to constitute a racial peculiarity. By fibroid processes I do not mean the physiologic fibrosis incident to advancing years, nor yet that form in which the parenchyma of an organ is encroached upon by an interstitial connective-tissue hyperplasia. I desire to confine the term to those processes the essential characteristic of which is growth, and which for the most part depend upon changes caused by inflammation, and which, as a rule, have some external injury as a starting-point. As the element of heredity seems to enter largely into these changes, perhaps the term "fibroid diathesis" may be admissible as expressing the inherent tendency to this class of changes.

There are three diseases which, by common consent, are considered as peculiar to the dark-skinned races. These are elephantiasis Arabum, keloid, and fibroma, or myo-fibroma, of the uterus. In addition to showing that these are peculiarly diseases of the dark races, I propose to show that they are true fibroid processes, and incidentally to consider their pathology with a view to determining their points of agreement and difference.

That elephantiasis Arabum is a disease almost indigenous to the dark races has been recognized for many years. As early as 1726, Richard Towne,[8]

in the last chapter of his little work, affirms this fact and discusses the pathology. Sir Joseph Fayrer[9] is a different sort of pathologist from Richard Towne, but his testimony is not less emphatic. He states that no race is exempt from the disease, but that the white races undoubtedly suffer less from it than the dark. It does occur, he says, though very rarely, in the pure European in India, more frequently in those of mixed descent, most frequently in the native. He observes that it will frequently be found that when it occurs in persons of apparently European parentage there will be found an admixture, however slight, of dark blood. This is strong language, and, coming from so experienced and careful an observer, should be convincing. But there is other evidence to the same effect. Other English observers who have noted this same tendency are Richards,[10] Hillary,[11] Oldfield,[12] and Daniell.[13] Among American observers, J. B. S. Jackson,[14] in giving an account of his voyage to Barbadoes, alluding to Barbadoes leg, states that it is more common among the blacks, even allowing for the differences in proportion of the two races. Prof. James C. White's[15] opinion is that the black race is especially predisposed to elephantiasis, the growth often attaining an enormous size.

Dr. Rufz[16] was a French physician who resided twenty years in Martinique. During his stay he kept very careful memoranda of all diseases coming under his notice, and being an accurate and skilful observer, his conclusions are worthy of respect. I desire here to express my sense of obligation to his conscientious and exact records, to which I shall have occasion several times to refer. In speaking of elephantiasis he states that it is much more frequent in the negro than in the mulatto, in whom one sees it very frequently, but that he has never seen it in a white person. Levacher,[17] another French physician, has noted the same peculiarity.

It is, however, useless to burden our argument with the further citation of authorities. The testimony is uniform and emphatic as to the great preponderance of elephantiasis Arabum in dark-skinned races, and we are bound to accept it as a fact, explain it how we may. I have notes of five cases seen by me during the past year. Four were in colored persons and one in a white man. In one case the diagnosis was verified by a post-mortem examination.

There is much doubt as to the exact etiology of elephantiasis Arabum. Medical literature is full of articles bearing on this point. It has been described as erysipelas, as a phlebitis, as a lymphangitis, as a disease of the nervous system, and as a result of blocking of lymph-channels due to filariæ. The truth appears to be that many separate processes have been described as elephantiasis. But whatever each may assign as the particular cause, all are agreed as to the result, viz., an enormous increase in the connective tissue. The cuticle may be normal or thickened. When thickened I think the process should be ascribed to mechanical causes, as the epidermis is of epiblastic origin, while the corium is of mesoblastic origin, along with the connective tissue, and as this is purely a connective-tissue growth the epidermis should not, as a necessary consequence, be involved. In most cases the cuticle is normal. As would be expected, the corium is thickened, and contains a tolerable abundance of fine elastic filaments. The subcutaneous connective tissue is enormously developed, and is generally thicker next the derm. The hypertrophied connective tissue consists of yellow and white fibrous tissue, the former being more abundant. It may contain unstriped muscle, arranged in narrow bands, vertically as well as transversely. The sebaceous and sweat glands are generally normal. As Wilkes and Moxon[18] well point out, there is in the hypertrophied connective tissue of elephantiasis no element differing in kind from those normally found. There is, however, one constant change noted by nearly every observer. The bloodvessels are more numerous, and are enlarged, the increase being in the tunica adventitia, and consisting in proliferation of round lymphoid cells. This has been noted by Rasmussen,[19] Wilkes, and Moxon,[20] Crocker,[21] and (according to Rasmussen) by Brücke, Leydig, Robin, and His. Fenger,[22] in a recent case, notes this same peculiarity.

Strange to say, comparatively few observers note any changes in the lymphatic vessels. In view of the generally accepted pathology of elephantiasis, this omission seems strange. Even should lymphatic involvement be an essential part of this disease, it would not change its character as a mesoblastic process, as the lymphatic vessels are derived from that layer.

Summing up, elephantiasis may be defined to be a disease characterized by an enormous connective-tissue hypertrophy, accompanied by an increase in the number of bloodvessels, with thickening of their walls and proliferation of lymphoid cells in their tunicæ adventitiæ, and also, in some cases, by an alteration in the size of the lymphatics.

By every observer, in a position to judge, the tendency to keloid has been recognized as a peculiar characteristic of the dark-skinned races. To such an extent is this true that it has grown into a fixed tradition that any injury in a colored person, especially a full-blooded negro, will be followed by the development of this fibrous growth. Every American observer has noted this racial peculiarity, and the same is true of not a few foreigners whose opportunities have been good.

As to the frequency of keloid among whites, Professor James C. White[23] gives an interesting analysis of the comparative frequency of certain skin-diseases in America, as compared with Scotland, Ireland, England, and Austria (Vienna). The cases are divided into two classes, dispensary and private cases. With reference to keloid, he reports fifteen cases in 10,000 American dispensary cases; no case in 3000 similar Irish cases, and but one in 23,944 cases reported from the great Vienna clinic. The statistics from private cases are not less interesting. In 2000 American cases of this class there was but one case of keloid. No case of keloid was reported in 1000 Scotch and 10,000 English cases of this character. Of course in these statistics there is no attempt to classify as to color.

Since 1878, the American Dermatological Association has published yearly reports of the number and character of skin-diseases coming under the observation of its members. The report for 1890 brings the total number of cases observed since 1878 up to 157,067. Of this number, 179 were cases of keloid, a percentage of 0.114. While the element of color is excluded from these statistics, it is interesting to note that many more cases of keloid are reported from cities having a large population of colored people than from those less favored in this respect. Morison,[24] in a careful study of 1000 cases of diseases of the skin, 500 in white and 500 in colored persons, gives some valuable information. For the sake of greater accuracy he divides the colored into pure blacks and those of mixed blood. As to keloid, he notes no cases among the whites, none in the mulattoes, and three in the pure blacks.

Since June, 1891, I have examined 152 colored persons with reference to this growth, and I have found keloid in 9 instances. During the interval I have examined 392 whites and found no cases of keloid. Of course, had the examination been confined to skin-diseases alone the percentage would have been larger. The statistical tables of the Johns Hopkins Hospital for the year ending January 31, 1891, show 1 case of keloid among 526 whites, and 2 cases among 92 colored patients in the surgical wards. Every American author on diseases of the skin notes this proneness of the colored race to keloid. Among others, mention may be made of Duhring,[25] Hyde,[26] Atkinson,[27] and Morison.[28]

At the meeting of the American Surgical Society, in 1888, Tiffany[29] read a paper on "Surgical Diseases in the White and Colored Races," basing his conclusions on 4390 cases, 64 per cent. being white and 36 per cent. colored. Among other things, he states that keloid is very common among negroes and rare among whites. In this conclusion he was sustained by such excellent observers as Briggs, Gregory, and the late Christopher Johnston, the last-named going so far as to say that he regarded the occurrence of keloid as characteristically frequent in the negro, and, of course, in a figure greatly preponderating over that among the white race. This racial tendency has not escaped English observers. The careful report of the "Keloid Committee" of the Clinical Society[30] mentions as a well-known fact the frequency of this growth in the negro after blows and cuts.

Lastly, I desire to summon as a witness Dr. Rufz,[31] the French physician before alluded to. In an analysis of the cases of skin-disease seen by him during his twenty years' residence in Martinique, he divides them into:

1. Those never seen.
2. Those rarely seen.
3. Those most frequent.
4. Those that appear peculiar to Martinique.

In the last class is keloid, which he describes in the following language:

"Voici une affection de la peau qui me paraît particulière à la race noire. . . Au premier coup d'œil, elle peut être confondue avec l'éléphantiasis des Arabes et a peu passer pour être une de ses variétés. . . Ces saillies sont très fréquent chez les noirs, j'en ai vu quelques exemples chez les mulâtres, mais jamais je n'ai vu rien de semblable chez le blanc."

I think the evidence will warrant the conclusion that we have in keloid a disease affecting in a peculiar degree the dark-skinned races. Perchance it may seem an omission that no attempt has been made to separate the true from the so-called false keloid. Histologically there is no difference, and some good observers go so far as to deny the possibility of spontaneous keloid, claiming that in every case of this disease there must have been a preceding injury, although this may have been so slight as to have escaped notice. It is true that some pathologists claim that in spontaneous keloid the rete and papillæ are present, while in the cicatricial variety the entire structure of the skin is replaced by new connective-tissue growth. The distinction seem factitious and not to rest upon a sufficiently solid basis to warrant its acceptance.

Pathologically, keloid is a pure connective-tissue new-growth, beginning around the bloodvessels. It is intermediate in character between a cicatrix and sarcoma. In its minute anatomy it consists of parallel connective-tissue bundles, running in the corium. In the more advanced cases the connective tissue replaces the entire structure of the corium. The walls of the bloodvessels are infiltrated, and this infiltration extends for a long distance beyond the borders of the growth. This change in the adventitia is especially marked at the edges of the growth and at the parts where the arteries send branches into the papillæ.

Comparing this with the pathology of elephantiasis a great similarity may be noticed. There is in both a true connective-tissue hypertrophy, an absence of any element differing in kind from the normal structure, and a development by cell-proliferation, beginning in the walls of the smaller bloodvessels. The two are nearly alike, but in keloid the epidermis being, as a rule, destroyed, there is a tendency to growth outward, above the level of the skin, while in elephantiasis the cuticle always forms the outer layer of the thickened mass.

Coming now to the third fibroid process peculiar to the dark races, we must, for the most part, accept the testimony of American observers, for the reason that they alone have had the requisite opportunities to judge as to the relative frequency of these growths in the two races. The language of Peaslee[32] is most emphatic. After stating that the uterine fibroid is very common in the negro race, he goes on to say that "very few women die, above the age of forty, at the Home for Colored Women in this city (New York), who are free from this disease." Briggs, of Nashville, at the meeting of the American Surgical Society in 1888, referring to the diseases of the negro, noted that abdominal fibroids are very common, and that the greater number of abdominal tumors in the negro belong to the fibroid or fibro-cellular variety. Tiffany,[33] Ware,[34] William H. Flint,[35] Thomas,[36] and many others, confirm this testimony. J. B. S. Jackson,[37] speaking of the diseases of Barbadoes, remarks that there seems to be as much as most persons would desire to see in the form of polypi and fibroid tumors. In the Johns Hopkins Hospital,[38] during the year ending January 31, 1891, there were treated in the gynecologic service, 373 white, and 89 colored persons. Of the former, 11, or 29 per cent., suffered from uterine myomata, and of the latter, 8, or 9 per cent. were afflicted with these growths. My friend Dr. D. S. Lamb, of this city, has kindly allowed me access to his record of autopsies. Of these, 85 were made on females over the age of fifteen years, 20 being white and 65 colored. In the whites uterine fibroids were only once found, or in 5 per cent. of bodies examined. They were present in the colored in 10 out of 65, or 15 per cent. In the report of the Government Hospital for the Insane for the year 1892, the pathologist of the institution, Dr. I. W. Blackburn, a most competent observer, gives synopses of post-mortem examinations in 69 cases of mental disease in females, with special reference to the condition of the organs of generation. Of the 69 cases 34 were white and 35 colored. Leiomyomata of the uterus, often multiple, were found in 17 cases, 15 of which were colored.

Dr. Rufz,[39] to whose careful observations I have already expressed my indebtedness, bears testimony in this particular equally as strong as in the cases of elephantiasis and keloid. He says:

"La fréquence du polype utérin à la Martinique m'a fait penser quil y avait dans le sang du négre quelque élément propre à la production des corps fibreux, ainsi que semblerait aussi le faire croire cet autre fait de la facilité des hypertrophies fibreuses de la peau à la suite des blessures et les heurts les plus legers."

The supposition hazarded by this shrewd observer that there is something in the blood of the negro predisposing to the development of fibrous growths is entirely in the line of my own thought and argument.

Personally, I have not had sufficient experience in this class of tumors to warrant any definite statement as to their frequency. A glance at the pathology of these growths will, I believe, show a structure somewhat similar to that of the two before considered. To begin with, they are mesoblastic growths. They are strictly homologous to the uterus in structure, and consequently contain a varying amount of muscular tissue. Consisting, in the beginning, almost entirely of unstriped muscle, they rapidly undergo fibroid degeneration—so rapidly, in fact, as to lead almost irresistibly to the conclusion that the change is fibroid from the start. The tendency among pathologists, in late years, has been to consider these growths as myomata, but the period of pure myomatous structure is short, if indeed it exist at all. They soon become fibroid, and, like all fibroid structures, are prone to undergo calcareous degeneration late in their history. Again, it must be borne in mind, as Sutton pertinently remarks, that all fibrous neoplasms may not have been composed of fibrous tissue originally, but may have consisted in great part of unstriped muscle-fiber which has later degenerated into fibrous tissue. This may be the true key to the underlying changes in elephantiasis and keloid.

As keloid and elephantiasis contain the elements of the corium, so these growths contain the elements of the uterus, but the growth is none the less a connective-tissue one. The more the muscular structure predominates, the more firmly is the tumor connected with the uterine walls. These growths are encapsulated, and between the capsule and the main body of the growth is a layer of loose connective tissue, in which run many bloodvessels, often of large size.

Kleinwächter[40] describes the evolution of these tumors from certain round cells which occur alongside of slowly-obliterating capillaries. These round cells are later transformed into spindle-shaped corpuscles which arrange themselves in such a way as to form myomatous nodules. This pathology is not dissimilar to that of elephantiasis and keloid.

There is the same lack of foreign elements, and the same increase of fibrous tissue from cells deposited around the capillary bloodvessels.

Reasoning by analogy, we should expect to find fibroma less frequent in the white than in the dark-skinned races. It is doubtful, however, whether tumors of this class are sufficiently numerous to warrant a classification in this respect. If ever such a classification be made, I believe the law will be found to hold good.

It is possible that the ease with which fibrous tissue is formed in the colored race will explain, in part, the rapid healing of wounds in them. The process of healing in wounds is, in its essence, a connective-tissue process, and in accordance with the facts already laid down, it would naturally be expected that it should take place more readily in the dark-skinned races.

Sarcoma is the most frequent of the malignant neoplasms in the colored race. This is my own observation, and that of all other observers who have had much to do with these people. Tiffany,[41] Briggs, and others, make this statement. This is only what might be expected, if fibroid processes are a characteristic of the race. Sarcoma is the purest type of a connective-tissue neoplasm, containing, as it does, only the elements of the embryonic connective tissue, and it would be only natural that it should be the form of malignant neoplasm most frequent in the colored race, if our contention as to the liability of this race to fibroid processes be true.

I think that sufficient proof has been adduced to show that we have, in the frequency of these fibroid processes in dark races, a distinct racial peculiarity.

If the premises here laid down be correct, the following conclusions may legitimately be drawn:

First. The dark-skinned races differ from the white race anatomically, physiologically, and pathologically.

Second. That there are three diseases characteristically frequent in the dark-skinned races, as shown by the independent testimony of English, French, and American observers. These are elephantiasis Arabum, keloid, and the so-called uterine myomata.

Third. That these are all mesoblastic growths, and that in general terms their essential characteristic may be said to be an increased development of fibrous tissue, due to proliferation of cells around the capillaries, these being increased in number and size, and having thickened tunicæ adventitiæ. They are true inflammatory scleroses.

Fourth. That in respect to malignant growths, the same connective-tissue type predominates.

Fifth. That it may be laid down as a pathologic law, not heretofore enunciated, that there is some peculiarity in the dark-skinned races rendering them liable to growths of a fibrous nature in a degree greatly exceeding that observed in the white race.

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CONCERNING THE ETIOLOGY OF ECZEMA.[1]

BY A. RAVOGLI, M.D.,
OF CINCINNATI, OHIO.

HEBRA'S comparison of eczema to the irritation of the skin produced by croton oil, with due deference to this distinguished teacher, I believe to be incorrect. Like any other irritant, croton oil produces an inflammatory condition of the skin known as dermatitis. Dermatitis must be clearly distinguished from eczema, though many forms of acute eczema are really cases of dermatitis. The point that I would emphasize is that dermatitis is not

[1] Read before the Pan-American Medical Congress, held at Washington, D. C., September, 1893.

eczema, although dermatitis may produce eczema. Both affections are based upon an inflammatory process.

Let us investigate the clinical difference between these conditions. Inflammatory processes of the skin, like those of any other organ, consist in vascular changes, hyperemia, exudation, nutritive disturbance, alteration of the peripheral sensory and motor nervous apparatus, pain, and disturbance of function. Every pathologic process showing these characteristics is without doubt inflammatory, as are also in eczema the changes in the nutrition of the tissues and the disorders of the peripheral sensory nerves, although not so intense. When we find an active hyperemia accompanied by an effusion of serum and emigration of blood-corpuscles, we do not hesitate to consider the condition an inflammatory process, as it falls under the description of Celsus: *Calor, rubor, tumor, dolor.*

It is true that Auspitz[1] proposed to call any one of the inflammations of the skin, whether superficial or deep, a dermatitis. While Hebra reserved the term dermatitis exclusively for the deeper-seated inflammations of the skin, we cannot deny that eczema is an inflammatory affection of the skin, hence a dermatitis; but everyone who has had experience with diseases of the skin, finds that it is an inflammatory process *sui generis*. We speak of eczema erythematosum, papulosum, rubrum, impetiginosum, or squamosum as simple varieties of eczema in degree, but not varieties in kind or cause.

Török describes eczema as an inflammatory alteration of the epidermis, accompanied with infiltration of serum and of small cells. Chronicity is the characteristic of eczema, and this characteristic, according to Török, finds its explanation in the continued tendency to relapse, either at the point of origin or in surrounding regions. So we conclude that there is no true acute eczema, but that the so-called acute eczema is only relative. The severity of the symptoms depends on the reaction of the skin of different individuals to irritations. For instance, the heat of the sun will in one produce a dermatitis which does not exceed the degree of an erythema, while in another it will produce vesicles and an abundant exudation, constituting what has been called acute eczema, or better, *dermatitis calorica*. But these symptoms do not constitute a true eczema, though under favorable circumstances a dermatitis may be followed by eczema. I have often seen in my clinic well-nourished children of healthy parents with eczema around the nose, the chin, and in scattered patches on the cheeks. Abundant muco-purulent discharge oozes from the nose. In these cases the eczema doubtless results from the continued contact of the purulent matter with the skin. Cases of eczema auriculæ, spreading down the maxillary and cervical region, with the formation of vesicles, pustules, covered with thick crusts, are frequently brought to my clinic. The ear is affected with otitis media purulenta, pus of offensive odor being discharged from the meatus; here too there is no doubt that the cause of the eczema is to be ascribed to the presence of the pus. I have often seen cases of eczema in the form of scattered pustules under poultices applied to suppurating surfaces, and which have remained for a long time in contact with the skin.

I would illustrate these points by the following case:

CASE I.—Miss S. S., a professional nurse in a hospital, had several patients with purulent discharge from the vagina. Twice daily she used to syringe her patients, introducing the syringe with two fingers of the left hand. The purulent discharge often went between her fingers. She applied to me to be treated for eczema interdigitalis. She had plaques of eczematous eruption between the third, the fourth, and the fifth fingers of the left hand, from the second to the first phalanges, in the interdigital spaces, in the form of red inflamed plaques, consisting of small vesicles deprived of their epithelium, showing a raw, oozing surface, with an itching and burning sensation. Can we deny that the presence of the pus was the cause of this eczema?

CASE II was a barber who shaved some of his customers affected with acne. He spread the soap with the dorsal surface of his right hand, and pustules appeared at this point. He called on me with eczema on the whole dorsal surface of the right hand, showing plaques of vesicles in different stages, some broken, covered with crusts, some filled with sero-purulent fluid, on an infiltrated basis, with innumerable rhagades toward the joints. The man, in perfect health, never had any other trouble with his skin, and no other cause could be found than that pus had remained on his hands, rendered already tender from the continuous use of water and soap.

These examples can be multiplied indefinitely, and I must say that from their consideration I have reached the conclusion that the presence of pus on the skin is one of the most effective causes of eczema. This conclusion receives support from the communication of H. Leloir,[1] who holds that impetigo is a contagious disease. He refers to cases of pustules and ecthyma, which were communicated from the mother to the child, and *vice versa*. He reports the case of a man affected with impetigo of the beard, who by scratching transmitted the cocci of

[1] System der Krankheiten. Wien, 1881.

[1] Journal des Maladies Cutanées et Syph., 1891: "Ueber die nach Impfung mit eitererregenden Mitteln entstehenden Hautkrankheiten."

the pus to other parts of his body, showing abundant pustular eruptions in the axillæ.

In scabies the pustules, impetigo, furuncles, are nothing else but the spreading of purulent matter all over the body from scratching. Leloir comes to the conclusion that the cocci of the pus affect every layer of the skin from the epidermis to the deepest layer, causing inflammation, and that they find their way into the skin by any excoriation produced either by parasites or by any mechanical irritation. Leloir, in his cultures, found the staphylococcus pyogenes aureus in furuncles and carbuncles, and in many cases of ecthyma, and which in some cases was mixed with the staphylococcus pyogenes albus. Now, if these cocci from pus are capable of producing inflammation of every organ of the skin, why cannot they produce an inflammation of the epidermis, which we call eczema?

To substantiate this view, I found it necessary to resort to experiment, which I made with the staphylococcus pyogenes albus. I must tender my thanks to Dr. Kramer, Professor of Bacteriology in the Cincinnati College of Medicine and Surgery, who kindly supplied me with a pure culture of the staphylococcus pyogenes albus. In a rabbit the hair of the external portion of the ears was shaved off, and the ear then carefully washed, and rubbed with a pure culture of the staphylococcus. No alteration of the skin could be perceived. Another rabbit was prepared in the same way, and both ears were painted several times with croton oil. After twenty-four hours both ears were red, painful, and covered with vesicles. The left ear was inoculated with the pure culture of the staphylococcus; the other was left intact. Both ears, after four or five days, presented the symptoms of dermatitis much diminished, the redness lessened, though the epidermis remained hard, dry, and scaly. Ten days afterward, however, the left ear, which had been inoculated with the pure culture of the staphylococcus albus, began to show symptoms of eczema. Small pustules formed, covered with yellow crusts, which when removed showed the rete mucosum, oozing a serous fluid, and—a remarkable fact—the hairs were falling off, producing alopecia. The other ear (the right), which had not been inoculated, but only had been painted with croton oil, was improving, the hardened epidermis was scaling away, leaving a normal surface, the hair remaining intact, except where the ears came in contact with each other. This eczema lasted over four weeks, after which time the crusts began to fall off and the skin to return to its normal condition.

From these experiments I feel justified in assuming the staphylococcus pyogenes albus as a cause of eczema, and that its development under the epidermic cells produces this disease. The staphylococcus does not always find a fertile soil for its development, as it requires that the epidermic cells be loosened that it may penetrate beneath the surface. Inflammation of the skin, dermatitis, is therefore the most effective factor for the preparation of the soil for the penetration of this micro-organism.

My simple experiment shows that the staphylococcus does not develop in healthy epidermis. It is necessary therefore that the ground be prepared for it. This may be the explanation why eczema has been held non-contagious; but if the ground is prepared, eczema is certainly contagious. Everyone can remember cases of eczema of the scrotum in which the eczematous eruption has affected the skin of the thigh in close contact with the scrotum. Very often we see eczema of one leg affect the other, for the only reason that the affected surface is kept in contact with the other, especially while sleeping. Scratching scatters the staphylococci about the skin and prepares the epidermis for their culture. By means of the finger-nails the patient takes the crusts, the serum, the purulent matter, and brings them to other parts of the body, where, finding the epidermis scratched and its horny cells loosened, they begin their work of reproduction. It is no serious objection to my statement that the husband, when affected with eczema, does not communicate the disease to his wife, for one must consider that, first of all, skin-diseases produce a certain natural repulsiveness, and therefore lessen the frequency or closeness of contact. The same precautions are used with other members of the family. Moreover, the healthy epidermis does not permit the development of the cocci, which may only occur with solution of continuity. I can recall plaques of eczema on the breasts of mothers nursing a child affected with eczema of the face.

The contagiousness of eczema is entirely dependent upon the condition of the epidermis, which allows the development of the cocci only when not in an exactly normal condition. My experiment plainly shows this: When I rubbed the ears of the rabbit with the culture of the staphylococcus, the result was negative; but when I rubbed the culture of the staphylococcus after the epidermis had been blistered with croton oil, the skin was affected with an eczematous eruption that lasted over four weeks. In many cases of eczema we can distinctly see the precedence of the irritation and dermatitis, and from them the pus has been formed, which has produced the eczema. Take, for instance, eczema infantile which follows seborrhœa capillitii; the sebaceous masses are formed on the scalp, the glands are inflamed, and under the masses of sebum pus is formed. As soon as pus is formed eczema begins. From its origin we may call this variety eczema sebaceum, in order not to confound it with seborrhoic eczema, which I consider totally different from true eczema. As long as the sebaceous masses do not produce inflammation of the epidermis, the affection remains limited to simple cases of sebor-

rhea; but when the sebaceous masses macerate the epidermis, and produce inflammation, with the formation of pus, the eczematous condition has begun and we have present a true eczema. The child, annoyed by the itching sensation, rubs as much as possible, spreads the purulent secretion on the face and the ears, and thus the eczema extends.

In my experiments I could see that from the time of the inoculation of the staphylococci and the appearance of eczema there is a period of incubation of from one to three weeks. I believe that this period of incubation can be called upon to remove the objection that sometimes an eczema has recovered, and that a short time after it reappears. We should remember that sometimes the cocci remain between the connections of the epidermic cells, and that with the naked eye or with a common magnifying glass nothing can be perceived. This may explain why in one or two weeks eczema appears again as a "relapse." These kinds of eczema are often considered as nervous eczema on account of the tendency to relapse.

The skin differs in susceptibility to eczema, some individuals affected with scrofula being much more liable to it than others. Eczema is not transmitted by heredity, but there may be transmitted the vulnerable skin, which may predispose to the development of the disease. Nothing is transmitted in eczema; no *materia peccans* is transmitted from parent to offspring, but only a weak constitution or an easily-affected skin makes the offspring subject to eczema.

Neither do I agree with my distinguished colleague, Dr. D. L. Bulkley,[1] who attaches so much importance to the nervous system in the production of eczema. In a large number of patients suffering with this disease in every shape and form—circumscribed, universal, papulosum, rubrum, squamosum, etc.—I can say that in nearly every one I could not find any nervous trouble. The only thing which is often remarkable is sleeplessness, the result usually of the itching sensation which nearly always attends eczema.

I do not wish to dispute this point, as not more than one year ago I admitted the presence of a nervous eczema produced by reflex action of the nervous system. I do not doubt the truthfulness of the cases referred to by Meyer[2], Leloir, Tommasoli, Radaven, and many others, but what I want to ask is this: Were all these cases of true eczema? As I said, I have seen cases of acute eczema follow dietetic disorders, such as excessive smoking, but, although one year ago I was inclined to call those cases acute eczema, to-day I am willing to call them dermatitis, with a qualifying adjective such as neuritica, vesiculosa, etc.; but I am no longer willing to let them pass under the name of eczema. My rabbits, when they got eczema, had no moral shock, but on an inflamed surface of the skin they had inoculated the culture of the staphylococcus albus. In the same way, if all these cases have eczema they took it from the pus on an inflamed skin. I am fully convinced, with Bulkley, that children at the time of dentition may have a vesicular eruption of the face; I am not opposed to the belief of Scarenzio, that his patient had a vesicular eruption on account of the presence of a tapeworm in the intestines; I do not deny the presence of a vesicular eruption in women at the time of pregnancy, or of the catamenia—but are these eruptions true eczema? I answer, *no*. They are only cases of dermatitis, neuritic eruptions, herpes, entirely different from true eczema. That eczema could follow these eruptions there is no doubt, when we remember that a sero-purulent discharge was furnished by the vesicles, or by the bullæ, and the presence of the staphylococci on the skin could at this time produce eczema. By scraping with a sharp spoon upon the eczematous surface and staining the scraping with methyl-blue we obtain isolated epidermic cells that show a large quantity of staphylococci. Staphylococci in their development produce toxins, to which the tissues cannot remain entirely indifferent, and also toxalbumins. The toxalbumins, to produce their effect, need to find an excoriation or an abrasion, otherwise they remains harmless.

Bockart, in 1887, had already produced pustules by the artificial inoculation of the staphylococcus pyogenes albus, and flavus, and this furnishes another support to my theory. From Konrad and Buedinger[1] we know that as soon as the staphylococci of pus appear in a wound, the healing *per primam intentionem* is disturbed. Staphylococci applied on the skin of the arms of the authors caused follicular abscesses, with this difference, that staphylococcus albus and aureus produced mild irritation, while the staphylococcus citreus produced severe suppuration and deep furuncles. From the different cocci, different forms of eczema arise, a difference which may also depend upon the different organs of the skin affected. Although my work is not complete, it seems to me to justify the following conclusions:

1. Eczema is a local affection of the epidermis of a chronic inflammatory character, contagious under favorable circumstances.

2. It is caused by pyogenic microörganisms (staphylococcus pyogenes albus) developed upon a previous inflammation of the skin.

[1] Ueber die Beziehungen des Eczems zu Störungen des Nervensystems. 1891.

[2] De l'Influence des Émotions morales. Paris.

[1] Wiener klin. Wochenschrift, 1892.

HALLUX VALGUS.[1]

BY JOHN B. DEAVER, M.D.,
OF PHILADELPHIA;
PROFESSOR OF SURGERY IN THE PHILADELPHIA POLYCLINIC; ASSISTANT PROFESSOR OF SURGICAL ANATOMY IN THE UNIVERSITY OF PENNSYLVANIA.

IN reporting this case of double hallux valgus, in which the deformity has been corrected by subcutaneous osteotomy of the neck of the first metatarsal bones, I propose to call attention as well to the varieties of this deformity, whether existing alone or in connection with enlargement of a mucous bursa developed in the superficial fascia covering the prominent portion of the head of the metatarsal bone, the result of prolonged pressure (bunion), and to the different forms of treatment.

The varieties of hallus valgus may vary from a slight abduction or displacement outward of the great toe, to a position in which the proximal phalanx is almost at right angles to the metatarsal bone. In the latter variety of the deformity the great toe lies either underneath or on top of the adjoining toes. In the aggravated varieties of this affection the deformity is not bony alone, but there is also a swelling over the site of the metatarso-phalangeal joint due to bursal enlargement. The several conditions that may constitute factors in the production of hallux valgus are the following: That which is the most common in my experience is crowding the feet into too narrow and too short high-heeled shoes. This is unfortunately the popularly shaped shoe. Short and narrow shoes contribute to this deformity by forcing back the last phalanx when the contact with the shoe prevents elevation and consequent flexion of the joint between the proximal and the second phalanx. On account of the resistance offered by the shoe, coupled with the lateral mobility of the first metatarso-phalangeal articulation, the toe is carried outward, or abducted. When any of the remaining toes are subjected to a like pressure on account of the absence of resistance on the part of the shoe, the proximal phalanx is lifted and the first phalangeal joint is strongly flexed, giving rise to what is known as "hammer-toe."

If the foot is forced into a narrow and pointed shoe the points whereon the greatest pressure is produced are the heads of the metatarsal bones of the great and little toes, resulting in the formation of a corn over the metatarso-phalangeal joint of the little toe, while the great toe, on account of its greater lateral mobility, becomes abducted, owing to the pressure on its extremity. This displacement of the great toe forms, to a greater or less extent, an incomplete luxation of the proximal phalanx. The exposed portion of the articular surface of the head of the metatarsal bone, being now no longer in contact with the articular surface of the phalanx, is subjected to continuous pressure, and becomes enlarged from proliferation of bony tissue. If the head of the metatarsal bone is not relieved of the pressure of the boot there will be produced a bursa over the enlarged bone, which not infrequently suppurates, leading to a most painful condition. Bursal fistulæ, consequent upon ulceration of the bursa, are often seen. These, too, may involve the joint, causing inflammation and suppuration. Again, it not infrequently happens that the synovial lining of the entire joint and also the articular cartilages, undergo change, resulting in an arthritis of a mild or severe degree.

Contraction of the muscles of the great toe, the result of infiltration dependent upon a rheumatic inflammation or of inflammation of the nerves supplying the muscles, may be enumerated as one of the causes of this deformity, yet it must be a very remote one. Another cause may be chronic inflammation of the joint, of the metatarsal bone, or of its periosteal covering, due to traumatism. I believe, however, as I have previously stated, that pressure, either alone or combined with other causative factors, is the chief element in the production of the deformity.

The treatment of hallux valgus will depend entirely upon the degree of the deformity, the amount of discomfort, etc. If seen very early, and the deformity be but slight, it may suffice simply to have the patient wear a properly fitting shoe, by which I mean one with comparatively wide toe and a very low heel, thus avoiding crowding of the toes. A properly fitting shoe should not in any way tend to diminish the transverse diameter of the foot between the heads of the first and fifth metatarsal bones. The use of plasters for protection applied over the projecting head of the metatarsal bone of the great toe, or over an enlarged bursa, is, I believe, capable of doing more harm than good, and in time, with this treatment, the deformity must surely increase, especially if the shoe worn is not very roomy at the toe. The use of appliances, such as devised by Biggs, I believe is equally ineffective. When the deformity is great enough to indicate the adjustment of an appliance I always feel that operation is more strongly indicated.

The operative treatment should consist either of osteotomy of the neck of the metatarsal bone, or excision of the joint. In my experience osteotomy fulfils the indication best in the great majority of cases. When a large bursa is present I dissect it out before dividing the bone. The degree of deformity, so long as there is no great disorganization of the joint-surface, should not influence the

[1] Read before the Section on Orthopedic Surgery of the College of Physicians of Philadelphia.

operator against osteotomy, as the deformity can be wholly corrected by this procedure.

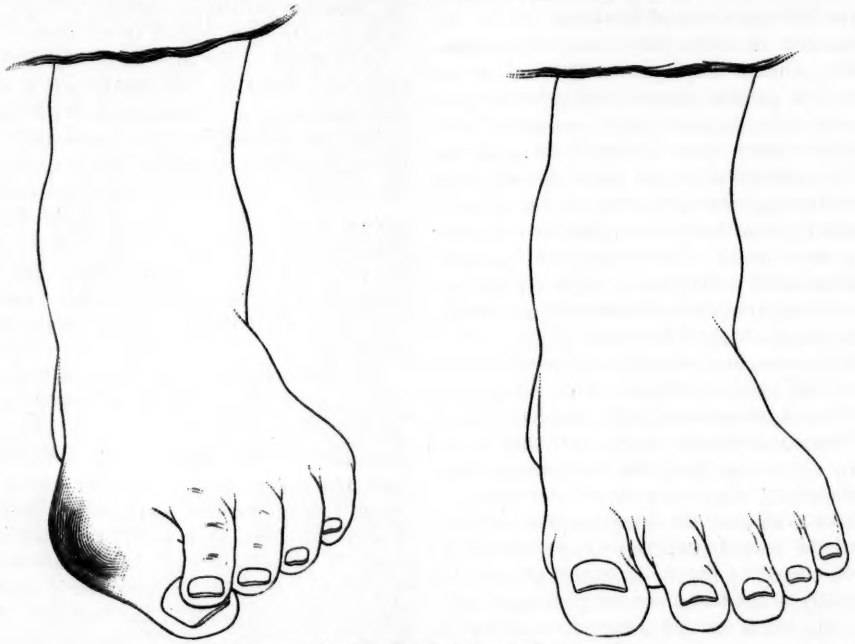
In the class of cases in which the proximal phalanx is displaced outward to the extent of making a right angle with the metatarsal bone, the thickest osteotome should be used, so as to have the incision as nearly V-shaped as possible, thus allowing the toe to be brought in a position of strong adduction.

In performing osteotomy the foot is rendered bloodless by the application of an Esmarch bandage and tube. The incision through the soft parts, including all of the tissues down to the bone, is carried over the neck of the bone along the inner side of the foot. The foot, as in osteotomy of other bones, is made to rest on a small bag of sand.

The bone having been divided, the wound is closed with catgut sutures and dressed with the ordinary antiseptic dressing. The great toe, being strongly adducted, is held in this position by a straight splint with a hole at the base to fit the internal malleolus and applied along the inner side of the foot. At the end of a week or ten days the splint is removed and the foot dressed with plaster. This dressing is allowed to remain in place for six weeks, when it is removed and the patient allowed to use the foot as before.

Excision of the metatarso-phalangeal joint of the affected toe I perform only in that class of cases in which the joint is positively disorganized, as demonstrated by the presence of physical signs of advanced arthritis. In the milder cases of arthritis arising in connection with hallux valgus recovery will surely follow correction of the deformity by oeteotomy. Crepitation, present so frequently in chronic articular disturbances, does not by any means imply a stiff joint when repair shall have become complete.

The more conservative operations that have been advised, such as subcutaneous section of the external lateral ligament of the affected joint, or of the tendons of the adductor or flexor brevis pollicis muscles, I believe, are capable of accomplishing but little in the way of correcting the deformity; I therefore neither practise nor advise them.



The appearance of the foot before and after operation.

Amputation can but seldom be required, as excision in the class of cases in which amputation might seem indicated will, in the majority of instances, be the better operation. The same conditions, however, such as advanced age, the presence of a constitutional diathesis, etc., that, under other circumstances, make amputation preferable to excision, must be carefully considered.

HISTORY OF A CASE OF HALLUX VALGUS.

E. McC., twenty-two years of age, was admitted to the German Hospital with the following history: He had had both toes frostbitten last January, and stated that this accident was the cause of two "bunions" that appeared shortly afterward over the metatarso-phalangeal articulation of either great toe. The man consulted a surgeon, who lanced both "bunions." Since that time the patient has had much

trouble in wearing shoes and great pain in walking. He was admitted to the hospital during the latter part of September, with marked hallux valgus of both feet. A subcutaneous osteotomy was performed upon the metatarsal bone of either great toe, the toe straightened, and a straight splint adjusted to the inner side of either foot. The bandages and splint were removed for the first time four weeks after the operation, when perfect union was found to have taken place. A silicate dressing was then applied and the patient discharged five weeks after the operation. He was readmitted four weeks later with a slight bursitis of the left foot, which yielded rapidly to applications of lead water and laudanum.

ORIGINAL ADDRESS.

THE PHYSICIAN IN LITERATURE.[1]

BY ARTHUR W. HURD, A.M., M.D.,
OF BUFFALO;
LECTURER ON INSANITY.

THIS evening marks the beginning of a new college year, the first complete college year in this, our new building, and I appreciate the honor conferred upon me in being selected to deliver the first opening address.

We should congratulate ourselves in possessing so complete and beautiful an edifice in which to do our work, and we should testify our appreciation of the zeal, the energy, and the self-sacrifice that made this building a reality—that out of a realm of misty possibility brought it into being. For many years it was a wish, a necessity, ardently desired by friends of the college. I think I do no injustice to all those who labored so earnestly for it to say that perhaps our first thanks are due to the energy, the loyalty, and the labor of Dr. Charles Cary.

This building, however, is only a tool, an instrument for a certain purpose; it is a means, not an end; and, as the finer the tool the better the work, so we shall expect students and faculty to accomplish greater results than ever before. I assume that every student enters upon the study of any profession with a certain purpose, and only after a certain deliberation and thought. I believe he should enter upon it only with the highest motives and ideals. If *anyone* should enter a profession with a high standard before him and a pure ideal, it should be he who, in the capacity of the trusted physician, aims to make himself fit to enter all walks of life.

The man who enters any profession without love for it, and simply to make a living, without respect for its honor and high standing, will do his share toward lowering it in public respect, even though he do not intend this. Of him it may be said, as De Tocqueville said of American Democracy: "The man who seeks freedom for anything but freedom's self is made to be a slave." The one who enters upon a course of study for a degree, planning how little he can do in three or four years, rather than how much, is doing himself and the profession an injury.

[1] Address delivered at the opening of the Medical Department of the University of Buffalo, September 25, 1893.

But it is not my intention to moralize, only, if possible, to indictate certain directions, not strictly medical, whereby the members and intending members may discharge a duty to themselves and to the high standing and honor of this profession, which it should be their ambition to sustain.

That every student should make the most of himself, should broaden his culture to the extent of his ability, is an axiom that no one will dispute, and yet, trite as it is, I fear it is not always heeded by the student of medicine. It is my desire to impress the fact that while to know one's business may be the whole duty of the *medical* man, it is *not* the whole duty of the cultivated physician; not the whole duty to himself, or to the standing of his profession before the public.

The very term, *medical man*, in itself illustrates the comparatively low standing of the profession in that mother country of ours, where it is the common term. For our own welfare it behooves us, as students, to prevent any possibility of our descent to the level of a trade, which that term implies.

However, it has not always been so even in England. In the seventeenth century, not only did the classic side of the physician outweigh his scientific attainments, but it secured for him the respect and the high standing so often referred to in the literature of Shakespeare's time. "The wealth and social position of the olden physician," says Dr. Bucknill, "is apparent even from many satirical attacks of the time. Thus, it is shown that they habitually rode in coaches when to do so was the luxury of the rich and great; they clothed in velvet and wore velvet caps of a conceited cut, but above all they aimed at maintaining themselves at the highest level of intellectual aristocracy in their knowledge of the learned and modern languages and other attainments in the general science and literature of their age." Of Dr. Linacre, the founder of the Royal College, it is said that "Returning to England, he brought languages with him, and was the first restorer of learning in our nation." Medicine was of such standing that the greatest dramatist of all literature referred to it constantly in his plays. In fact, Shakespeare undoubtedly derived much of his evident medical knowledge from his son-in-law, a noted physician, Dr. John Hull, who married Susanna Shakespeare.

In the present century this classic learning has given place to a more material scientific standard, absolutely essential in itself, but nevertheless detracting from that broader position. Thanks, however, to the efforts for a higher preliminary and medical education, the pendulum has begun its return-swing again. To assist this movement is the aim of this college; to assist it is in the power of its every student and alumnus; and that it is for our pleasure and our advancement to assist it, it is my desire to show.

But let not the thought be lost sight of that the duty of the student is, first and foremost, to perfect himself in his knowledge of medicine. No success, no distinction, no fame in arts or letters, or in other fields, can atone for neglect of this. This is the foundation on which his other attainments may be added, but may not supplant.

The cultivation of letters, the pursuit of literature, achievements in the sciences allied to medicine—these

not only add directly to the reputation and the influence of the physician who broadens thus his scope, but they add directly to the sum-total of the knowledge of the world. And further still, they stimulate the mental vigor of the intellectual world, and in the gain the physician's own profession reaps its share of benefits as well.

That epochs in medicine have followed revivals of intellectual life has been most aptly shown by one of our own profession who so well illustrates in his own life the high ideal and the broad scope of culture that I have sought to impress—Oliver Wendell Holmes:

"It was in the age of Pericles, of Socrates, of Plato, of Phidias, that Hippocrates gave to medicine the form which it retained for twenty centuries. With the world-conquering Alexander, the world-embracing Aristotle, appropriating anatomy and physiology among his manifold spoils of study, marched abreast of his royal pupil to wider conquests. Under the same Ptolemies who founded the Alexandrian Library and Museum, the infallible Herophilus made those six hundred dissections of which Tertullian accused him. It is significant that the large-minded Galen should have been the physician and friend of that emperor-philosopher, Marcus Aurelius.

"Look at Vesalius, the contemporary of Luther; who can fail to see one common spirit in the radical ecclesiastic and the reforming court-physician, both breaking through old traditions in the search of truth; one, knife in hand, at the risk of life and reputation; the other at the risk of fire and fagot, with that mightier weapon which all the devils could not silence, though they had been thicker than the tiles upon the house-tops.

"Harvey himself was but the posthumous child of the Elizabethan period. Bacon was at once his teacher and his patient. The founder of the new inductive philosophy had only been dead two years when the treatise on the Circulation—the first fruit of the restoration of science—was given to the world. And is it to be looked at as a mere accidental coincidence that while Napoleon was modernizing the political world, Bichat was revolutionizing the science of life; that while the young general was scaling the Alps, the young surgeon was climbing the steeper summits of unexplored Nature; that in the same year one read those admirable *Researches on Life and Death* and the bulletins of the battle of Marengo? If we come to our own country, who can fail to recognize that Benjamin Rush, the most conspicuous of American physicians, was the intellectual offspring of the movement that produced the Revolution?"

And coming down, I may add, to a later time, we may recognize the same truth exemplified in the progress in medicine and surgery from the tremendous stimulus to mental work and achievement incident to our own Civil War. Material things—commerce, manufactures, productions generally—took on prodigious life and energy. Mental action was also intensely quickened. Men then, by the mighty logic of events, were forced to think and to act, and behold our progress! What was surgery, as we now know the word, before the war; and what has it become, from that very intellectual quickening! The same experience has been had with bacteriology, and every branch of the science.

Progress in medicine, as in every other department of intellectual life, thrills with the enthusiasm of a quickened national mental vigor, or droops with its decline, and he swells his own intellectual wealth who adds to the mental capital of his country and of his time. As true also is it that he who countenances false beliefs, who leads the world into error, medical or other, issues a counterfeit coin, difficult to recall and morally debasing.

It is not all of life to live, nor is it all of a physician to know the art of healing. The responsibilities he has to bear, the counsel he is to give, the confidence he should deserve—all call for the broadest culture and the deepest humanity of which he is capable.

Let the student therefore cultivate some other field—the study of ornithology, if he will—and become an Elliot F. Coues or a Shufeldt, and bring honor to himself, his profession, and his country. Or let him cultivate the science of vital statistics and medical and surgical history, and become a Billings, to place his country and his profession in the front rank in this department of all the countries in the world. Or let him cultivate the science of government and political economy, and, while not detracting from his medical powers, emulate a Virchow, whose name and fame, and whose profession are, because of him, honored in the medical and political life, not of Germany only, but of the world. Or, like a certain distinguished student of anatomy, he may turn his attention to the natural sciences and win fame for self, and make the world his everlasting debtor—an Alexander von Humboldt. Or he may turn from scenes of sickness and suffering and depict the scenes of Nature in her happier moods, and with the etcher's tool work out for himself rest, recreation, and fame, and for the world, ennobling pleasure, and still be the surgeon and artist—a Seymour Hayden.

Should any urge that medicine is too broad a science to allow time for other pursuits, too jealous a mistress to permit attention to her rivals; that her study unfits one for the pursuit of other branches; I might reply that work and mental discipline increase the power for work; that he has time for work who has no time, and that he who has abundance of leisure is the man who has no time to produce anything of value. I might reply with the words of that artist-philosopher, Philip Gilbert Hamerton, who says:

"The profession is, of all fairly lucrative professions, the one best suited to the development of the intellectual life. Having to deal continually with science, being constantly engaged in following and observing the operation of natural laws, it produces a sense of the working of those laws which prepares the mind for bold and original speculation, and a reliance upon their unfailing regularity, which gives it great firmness and assurance. A medical education is the best possible preparation for philosophical pursuits, because it gives them a solid basis in the ascertainable. The estimation in which these studies are held is an accurate meter of the intellectual advancement of a community. Where the priest is reverenced as being above ordinary humanity, and the physician slightly esteemed, the condition of society is sure to be that of comparative ignorance and barbarism; and it is one of several signs which indicate barbarian feeling in our own aristocracy that it has a contempt for the study of medicine. The progress of society toward enlightenment is marked by the steady social rise of the surgeon and the physician, a rise that still continues in Western Europe. It is probable that before very long the medical profession will exercise a

powerful influence upon general education and take an active share in it. There are strong reasons for the opinion that school-masters educated in medicine would be particularly well qualified to train both body and mind for a vigorous and active manhood. An immense advantage, even from the intellectual point of view, in the pursuit of medicine and surgery is that they supply a discipline in mental heroism. Other professions do this also, but not to the same degree. The combination of a training in positive science with the habitual contempt of danger and contemplation of suffering and death, is the finest possible preparation for noble studies and arduous discoveries."

As we read these words of an unprejudiced observer, do they not call up before us those intellectual heroes in medicine, heroes because it took courage and broad-mindedness and culture to face an almost universal opposition! Does it not call up Vesalius, and Harvey, and Hunter, and Paré, and scores of others whose culture and whose courage have made the world progress, in spite not only of scorn and contempt, but even of disgrace and death!

And there remains yet another field, which in the cultivation yields stores of pleasure and of fame. It is the field of Shakespeare, of Milton, and of Dante. It is the field that never fails its bounteous return, no matter how often gleaned, a help to the weak, a delight to the strong, and a solace to the weary.

In this pursuit of literature may we perhaps find that breadth of culture and that loftiness of ideal which should be the physician's aim. What medical men have done in literature, what pleasure, and what profit, too, they have given to the world, would require a volume to recount; and who can measure to what extent their own lábors have been thereby lightened and their profession honored.

To recall a few of the physicians who live in English literature may emphasize to us their work and the impress they have left upon the literary world and their profession. We may remember Arbuthnot, the witty, wise, and good physician to queen and prince, of whom Swift says: "He has more wit than we all have, and more humanity than wit," whose writings, ranging from philosophy to satire, remain his monument.

There should not be forgot the gentle author of *Pleasures of the Imagination*, that high-minded Mark Akenside, who never forgot the duties of his profession, while he won immortality in the pleasures of his pen. Mark Akenside, the man, was but foreshadowed in his youth when he could write his "Hymn to Science" and exclaim:

> "Raise me above the vulgars' breath,
> Pursuit of fortune, fear of death,
> And all in life that's mean;
> Still true to reason be my plan,
> Still let my actions speak the man
> Through every various scene."

And then we remember the author of the *Vicar of Wakefield*, and of *The Deserted Village*, the shiftless, the careless, and the lovable Oliver Goldsmith, a literary and medical tramp, who enriched the intellectual world and rendered English literature his debtor forever—and everybody else his creditor. Indeed, his necessities were at one time so great that he was forced to borrow a new suit of clothes in order to make himself sufficiently presentable before the examining board, at whose hands he sought a governmental medical position. The agreement was that, if successful in the examination, he should thereafter pay for the suit of clothes in instalments as he drew his salary, and in the event of failure he was to return the clothing immediately. He failed both in his examination and in his promise to return the suit, which he disposed of in a pawn-shop. For a time thereafter his life was clouded by visions of a pursuing sheriff. And yet it is with honor only that we remember this unhappy physician, who could write:

> "In every government, though terror reign,
> Though tyrant kings or tyrant laws restrain,
> How small of all that human hearts endure
> That part which laws or kings can cause or cure."

Nor must we forget Erasmus Darwin, who found that his life and standing as an honored and successful physician was in no wise narrowed, but rather broadened, by his love for Nature and her flowers, of which he wrote so well. So, too, of Dr. John Moore, the traveller, the historian, and the novelist, who instructed and pleased his world, who elevated his profession, and who, to alter Shakespeare's words, "Could write and write, and be a doctor still."

Nor could we with justice omit that gentle physician and man of letters who has left much, but nothing so enduring to his fame as *Rab and his Friends*. To him also could I appeal, for did he not urge the broader culture fourscore years ago, when he said: "To give my vote for going back to the old manly, intellectual, and literary culture of the days of Sydenham, Arbuthnot, and Gregory, when a physician fed, enlarged, and quickened his entire nature; when he lived in the world of letters as a freeholder and reverenced the ancients, while at the same time he pushed on among his fellows and lived in the present, believing that his profession and his patients need not suffer, though his leisure hours were devoted occasionally to miscellaneous thinking and reading and to a course of what is elsewhere called 'fine confused feeling,' or though, as his Gaelic historian says of Rob Roy at his bye hours, he be 'a man of incoherent transactions.'

"As I have said, system is not always method, much less progress."

And then there shines as a brilliant example of the broadly developed man, as the example of most that is best for a man and his profession in true culture, Thomas Huxley. He could be the assistant-surgeon on board her Majesty's ship *Rattlesnake*, and yet be the student of natural sciences who brought home enough material from the South Pacific to build the foundations of a world-wide fame. So, too, we have a John W. Draper, who could be a physician and yet write *The Intellectual Development of Europe;* who could be a teacher of chemistry and write his *History of the Conflict between Religion and Science*, reaching a far wider world and building up a vastly more extended field of reputation and usefulness than would have been embraced by his profession only.

The author of *Peregrine Pickle*, Tobias George Smollett, was a physician as well as novelist, and one of the most indefatigable workers in the field of English literature, which he left enriched. So, too, we might

recall John Armstrong, one of the most happy examples of the literary physician presented to us in the gallery of the eighteenth century, a successful physician and a distinguished poet, and whose profession was the more honored that he had lived.

And then we must not forget the meteoric Keats—the student of medicine and the poet whose brief twenty-five years, cut short by pulmonary tuberculosis, was sufficient for him to win an immortality of fame denied in the proverbial threescore and ten.

Of Crabbe, and Currie, and Charleton, and John Locke, bright examples of a faded generation, we have but time to call their names.

And of those whose fame is peculiarly of our own America must come that honored signer of the Declaration of Independence, who was great enough to be statesman, author, physician, all in one—Benjamin Rush. And still within the Quaker City we find in our own time his fitting successors, distinguished both in medicine and in literature, S. Weir Mitchell, and others.

We come, finally, to the most distinguished living example of the physician and man of letters, the genial Autocrat of the Breakfast Table, who so fitly illustrates that broadness of culture and depth of professional learning are by no means incompatible, and that he honors most his profession who honors all the gifts kind Nature has bestowed. In him are found the subltest wit and highest sentiment. The author of the *Chambered Nautilus* could also write the *One-Hoss Shay*.

With that high ideal of what our art should be, with that conception of what we, its devotees, owe it and owe ourselves, he wrote:

> "Life is but a song, Art is wondrous long,
> Yet to the wise her paths are ever fair,
> And Patience smiles, though Genius may despair;
> Give us but Knowledge, this by slow degrees,
> And blend our toil with moments bright as these;
> Let Friendship's accents cheer our doubtful way
> And Love's pure planet lend its guiding ray,
> Our tardy art shall wear an angel's wings
> And life shall lengthen with the joys it brings."

And so, among his books, and within the circle of that mellowed light, whence dimly peer the spirits of Shakespeare and of Milton, approving both his honor and his usefulness, we may leave the man of culture who has almost solved the secret of a happy life.

ORIGINAL LECTURE.

PISTOL-SHOT WOUND OF THE NECK—GANGRENE OF THE FOOT—VESICAL CALCULUS IN THE FEMALE—TREPHINING FOR EXTRA-DURAL HEMORRHAGE.

A Clinical Lecture, delivered at the Pennsylvania Hospital, October 4, 1893.

BY JOHN H. PACKARD, M.D.,
SURGEON TO THE HOSPITAL.

CASE I. *Pistol-shot wound of the neck.*—This man, an Italian, of robust frame, thirty-two years of age, was admitted to the hospital late in the evening of September 23d, having been shot in a quarrel. Nothing could be learned as to the size of the weapon or the distance at which it had been fired.

The wound, a very small one, was at the root of the neck, on the left side; it was about an inch and a half from the median line, and about an inch above the clavicle.

Now, in all cases of shot-wound, the first question is: What harm has the bullet done? and the second: What harm is it likely to do?

In this instance the ball entered a region which, as you know, contains large and very important blood-vessels and nerves. Yet on admission the man showed very slight symptoms of shock, his temperature being 98.2°; the wound was not bleeding much, nor was there any evidence that there had been loss of blood to any extent. The pulse was 110, and the respirations 40 in the minute. But with each act of expiration there was a hissing sound of air passing out through the wound, the skin about which was slightly swollen, and crackled when pressed upon with the finger; and there was frequent spitting-up of frothy blood. It was therefore evident that while the great vessels and nerves had escaped injury, an opening had been made in the trachea, permitting the escape of air into the tissues.

At my visit next morning I found the man in fairly good condition, with some considerable extension of the emphysema, but no marked embarrassment in breathing. Under ether, I enlarged the wound somewhat by an incision parallel with the clavicle, and exposed the trachea, at the left side of which there was a small opening cut by the ball as it passed backward and very slightly inward. With a blunt probe I gently followed the course of the bullet for about two inches further, but could feel no foreign body.

Now, as to the second question: What harm was this ball likely to do? It had probably lodged among the mass of muscles at the back of the neck, and the chance was that it would become encysted and lie quiet. I need hardly point out how great an error it would have been either to follow it up by a deep and dangerous dissection from the front, or to make a hap-hazard cut at the nape, in the hope of finding so small a body, which, if let alone, might give no further trouble.

The sinus made by the bullet was sterilized, a strip of iodoform-gauze was loosely placed in it, and an antiseptic dressing applied. Gradually the emphysema subsided as the opening in the trachea closed. The rest of the wound healed quickly from the bottom, until, as you now see, the appearance of the neck is quite normal, but for the scar of my incision and a little button of granulation marking the point of entrance of the bullet.

CASE II. *Gangrene of the foot.*—This man, fifty-five years of age, has been sent down to us from the coal regions on account of mortification of his left foot. Until four years ago he was intemperate; he has never, so far as can be ascertained, had syphilis. His present trouble came on without apparent cause about eighteen months ago; it began with sharp, burning pain in the toes. This gradually subsided, and the sensation of the part became lost. About two months afterward the tissues began to dry up and change color. Pain continued to be felt in the body of the foot up to the ankle.

On admission the foot and toes were of a brownish-purple color, hard and dry; on the outer side of the foot, just below the malleolus, there was a large sloughing ulcer. Wherever the pulse could be felt the arteries

were found to be stiffened and resilient from atheroma. Otherwise the man's health was fairly good; there was no evidence of heart-disease. This condition of the vessels, however, always signifies a deterioration of the system. It is one of the features of old age, and is therefore termed a senile change; although, as in this instance, it may occur prematurely. The urine, normal in quantity, was examined and found to be clear, somewhat darker in color than normal, with a specific gravity of 1020; it contained neither albumin nor sugar. Special attention was, of course, given to this inquiry, as gangrene is known to occur as a result of diabetes, and this condition is one unfavorably affecting the prognosis of operations. Albuminuria is generally indicative of chronic inflammatory disorder of the kidneys, and of impaired function of these organs; it is not a bar to operation, but lessens the powers of resistance to shock, and should make one cautious in giving ether.

This dead foot must be removed, as a source not of annoyance merely, but of danger from the absorption of septic material from it into the circulation. And the amputation must be done high up, through healthy tissue, as experience teaches that by so doing we are more nearly sure of avoiding the occurrence of gangrene in the stump. I shall therefore take the limb off just above the knee.

A tourniquet is put on so as to control the circulation through the limb, and now with a large scalpel I mark out a long anterior flap, cutting right down to the bone; this flap, composed of all the soft parts, is turned back, and I pass a long knife behind the bone, and cutting downward and backward make the posterior flap. Running the edge of the scalpel around the bone I divide the periosteum, and turn it back like a cuff for about an inch. This and all the other soft parts are now held back out of the way with a retractor, while the bone is sawn through; the flap of periosteum, as you see, falls down over the sawn end. All the vessels are now tied; the tourniquet being loosened, a few small ones, mainly muscular, are secured. The wound-surfaces are now douched, and the stump is closed by suturing the muscular layers first, and then the skin, with catgut. We try to get exact apposition, leaving no dead spaces or cavities in which wound-secretions might lodge; and as an additional precaution against such retention a piece of rubber drainage-tube is inserted at each angle of the wound. Aristol is dusted all along the line of junction of the flaps, and an antiseptic dressing of sublimated gauze and cotton is applied, with a firm bandage over all. The patient is put in bed, with bottles of hot water around him to promote reaction.

(A few hours after the operation secondary hemorrhage occurred; the stump was opened up, and a vessel or two secured, but there were several renewals of bleeding within the next twenty-four hours. The man began to lose ground; he became delirious, with a high temperature and rapid pulse, and died on the sixth day).

CASE III. *Vesical calculus in the female.*—The next patient is a woman, forty-three years old, also from the coal regions. She was in good health until about five months ago, when she says she caught cold, and had an inflammation of the bladder. Ever since then she has had great pain, shooting from the navel to the pubes; her urine has been scalding, and contained mucus and pus. About a month ago she began to pass blood, and occasionally masses of gravel. For a good while she had frequent calls to urinate, but these have given way to incontinence, her urine flowing away from her continually. Her bowels are much constipated.

Her urine is found to be alkaline, and to contain mucus, with a little blood.

She has been kept at rest since her admission, with a nutritious but non-irritating diet, and a mixture containing benzoic acid, sodium bicarbonate, and a little chloroform. She has been allowed to drink nothing but Buffalo lithia water.

A sound introduced into the bladder comes in contact with a gritty substance, which, if not the whole cause of the irritation, aggravates it, and must be removed.

For this purpose I dilate the urethra by passing into it this pair of dressing-forceps, closed, and then separating the blades. My little finger now goes in readily, and now my forefinger—and a mass of calculous material and thick mucus is at once felt. It is grasped with a pair of stone-forceps and withdrawn. The bladder is now syringed out with hot boric-acid solution, and a suppository of one grain of extract of opium is introduced into the rectum.

In addition to the former treatment, this patient will now take thrice daily a capsule containing ten minims of balsam of copaiba as a sedative to the urinary organs. For some time there will be a loss of control of the bladder, but usually this power is fully regained.

(Immediate and complete relief followed this procedure, and the patient did well; but she left the hospital before the neck of the bladder had recovered its tone.)

CASE IV. *Trephining for extra-dural hemorrhage.*—This man, who is twenty-seven years old, was admitted eight days ago, having been thrown from his wagon, and alighting upon his head. He made little or no complaint, but seemed dull and stupid. On shaving the scalp (and this should always be done for the purpose of examination when there is any reason to suspect fracture of the skull) it was found that he had over the right parietal bone, about an inch from the median line, an area of red points of extravasated blood; and here there was a slight bogginess of the skin, with some tenderness on pressure. Believing that the bone had suffered I thought it right to perform an exploratory operation, accordingly I had him etherized, and turned up a flap of the scalp, exposing a fissured fracture of an irregular T-shape. Applying the crown of a trephine, and taking away a button of bone, I came upon a mass of blood-clot lying upon the dura. The opening being freely enlarged by means of Hopkins' rongeur forceps, a large quantity of clot, certainly more than an ounce, was scooped out; there was still some oozing, in spite of the application of hot water. As the coagulated blood was taken away, the brain, covered by the dura, was relieved of pressure and swelled up into its place, pulsating normally. A tampon of iodoform-gauze was laid in the wound, which was brought together somewhat loosely by two or three sutures, and an antiseptic dressing applied. If the wound had been very tightly stitched up, and the oozing had continued, another mass of blood-clot would have formed, and would perhaps have given trouble; but a free exit was provided for the small amount which actually did come away. There were no subsequent symptoms to note.

You see to-day that the wound has entirely healed, and the man is practically well. Had I waited for the signs of compression of the brain to manifest themselves, as they most surely would have done, my interference would have come too late.

CLINICAL MEMORANDA.

TWO CASES OF TRAUMATIC INTESTINAL PERFORATION, WITH RECOVERY.

BY H. M. KELLER, M.D.
SUPERINTENDENT AND SURGEON OF THE STATE HOSPITAL FOR INJURED PERSONS OF THE MIDDLE COAL FIELD OF PENNSYLVANIA, HAZLETON, PA.

CASE I.—Mary B., twelve years of age, was admitted to the Hospital, October 21, 1893, at 9 P.M. Four hours before admission, while standing by the side of a butcher's wagon, she was shot in the abdomen by the accidental discharge of a 38-caliber revolver in the pocket of the butcher. On admission, an examination showed the bullet to have entered the abdomen about four inches to the left of the median line in the lower umbilical region, its course being downward and outward. The abdomen was considerably distended, the temperature 98.2°, the pulse 132 and weak, the respiration 36. Preparations were immediately made for operation, and the patient was placed under ether. An incision eight inches in length was made in the median line and the intestines were exposed; the cavity was filled with blood. Seven distinct perforations were discovered: five in the small, and two in the large intestine at the sigmoid flexure. These were all closed with fine silk, the Lembert suture being used. The bullet had imbedded itself in the muscles of the pelvis; it was not discovered by probing and was allowed to remain. There was considerable bleeding at the point where the bullet had penetrated the muscles, which was checked by suturing.

An interesting feature in connection with the perforations found in the small intestine was the presence of an intestinal worm, a lumbricus, eight inches long, which had been cut in two by the bullet.

The abdominal cavity was thoroughly cleansed, a glass tube was inserted for drainage, and the wound closed. The girl reacted quickly from the operation, and the following temperature-range was between 98.2° and 100°. On the second and third days the patient vomited dark-green material. The tube was removed at the end of forty-eight hours. On the fourth day there was a large, well-formed bowel-movement. The treatment was very simple; with the exception of small doses of morphin administered hypodermatically the first three days for restlessness, no drugs were given. Silkworm-gut was used in suturing the abdominal incision and the stitches were removed on the ninth day. This case resembles the celebrated one of Dr. Bull, of New York, who, as mentioned by Greig Smith, in 1885 operated on a patient with seven perforations, with recovery.

CASE II.—Anthony S., twenty-two years of age, was admitted November 25, 1893, suffering with a punctured wound of the abdomen. Two hours before admission, while working in the mines, he slipped and fell on his miner's needle, the needle penetrating the abdominal cavity to a depth of six or eight inches. This needle used by the miners in preparing blasts is a sharply-pointed rod of copper or steel about three feet long. The needle was withdrawn by his companions, and he was immediately conveyed to the hospital. While on the way he vomited several times and complained of intense pain in the abdomen. On admission he was found to be suffering acutely, with the belly somewhat distended, and the pulse rapid. Only a very small wound was discovered, about three inches to the right of the umbilicus. Under ether an attempt was made to probe the wound, but the probe could only be inserted a depth of one inch, owing to a laceration of the abdominal muscle made by the needle. An incision was then made in the median line and the tract of the needle exposed; from this point the probe readily entered the abdominal cavity. The cavity was opened by a seven-inch incision and found filled with blood. Three perforations were discovered: two in the mesentery, which had caused very free hemorrhage, and one in the small intestine; these were closed with fine silk. The needle in entering had bruised the omentum, leaving a dirty tract on its surface. The cavity was thoroughly cleansed, and owing to some slight hemorrhage that still existed a glass tube was inserted for drainage. The abdominal incision was closed with silkworm-gut.

Recovery was uninterrupted, the temperature never going above 101°. The tube was removed at the end of forty-eight hours. The bowels opened on the fourth day without the use of salines. The stitches were removed on the ninth day.

THE TREATMENT OF PTOMAIN-POISONING BY MEANS OF SUBCUTANEOUS INJECTIONS OF BLOOD-SERUM.

BY C. F. DARNALL, M.D.,
OF LLANO, TEXAS.

ON October 19th I was called to see a pair of twin babes, females, ten weeks old, who were being artificially fed, and who had been seized the day before with vomiting and diarrhea. Upon inquiry it was found that these symptoms had set in after partaking of a newly-opened can of condensed milk. The children presented the symptoms of ptomaïn-poisoning, and in the course of four days the weaker one died. With the able assistance of Dr. H. W. Moore, of Llano, I injected subcutaneously four ounces of a normal saline solution into the surviving twin, but without beneficial result. Four ounces of blood were on the fourth day taken from the arm of the father, a stout, healthy young man, quickly defibrinated, and two ounces of the serum were injected beneath the skin over the abdomen of the surviving infant. The child was carefully watched, and reaction occurred in about six hours. Improvement gradually took place, and in six days, upon a diet of thin corn-meal gruel at first, later replaced by fresh milk properly prepared, the child was well. It was placed at the mother's breast at regular intervals, and at the time of this writing, nearly nine weeks after the onset of the illness in the children, the lacteal secretion is fully established.

The operation was merely experimental, as the babe was apparently moribund, but it demonstrated what an artificial appropriation of blood will sometimes accomplish. We used a hypodermatic aspirator with a two-

way stop-cock and needle, a clean soft-rubber catheter for the supply-pipe, and clean bowls, teacups, and broom-straw. Everything was rendered aseptic with boiling water. Three needle-punctures were made; the serum went into the babe's circulation at once, and no inflammation of the cellular tissue, or skin, or any other untoward symptom appeared.

The query arises: Was the risk increased by using blood from one so many years older? No time was at hand to select a more suitable donor; he was the child's father, anxious for the operation, and the merits were not discussed.

Many a case comes to every practitioner suitable for subcutaneous injections of blood-serum—inanition and anemia, shock, hemorrhages, and collapse in fevers. The operation is simplicity itself, and with very little risk, as compared with intra-venous injections and direct transfusions, so that everyone should be prepared to do it at once when indicated.

A FATAL CASE OF HYPEREMESIS GRAVIDARUM.

BY BOARDMAN REED, M.D.,
OF ATLANTIC CITY, N. J.

DR. CLARA T. DERCUM'S case, so well reported in THE MEDICAL NEWS of December 9th, reminds me of an experience of my own occurring four years ago. A delicate, anemic woman about thirty years old had been pregnant several times and always experienced severe and persistent nausea and vomiting during most of the time till relieved either by delivery at term or prematurely. She claimed that once at least, and I think twice, she had had pregnancy terminated artificially by reputable physicians on account of the serious character of her vomiting. I was called to see her when she was at about the second month, and I found nausea and vomiting persistent and extreme. Examination showed some congestion about the cervix, and following the practice of Dr. Jacob Price, of West Chester—which had proved successful in my hands in several cases previously—I applied a strong solution of nitrate of silver to the entire external part of the cervix. The usual medicinal measures were also resorted to, the diet being meanwhile strictly regulated. There resulted a marked improvement in the patient's condition. The vomiting was almost entirely controlled, and my visits were stopped or made only at long intervals. A little later the woman went out with a sailing party on the ocean and at the same time indulged in some particularly indigestible article of food. Naturally there was a return of the illness and, as in Dr. Dercum's case, the condition after recurrence was much worse than before. Everything possible was done again, but without avail. I had the assistance of Dr. Gadd, of Philadelphia, and at different times Dr. Franklin, of Philadelphia, and Dr. Kaemmerer, of Atlantic City, saw the patient in consultation with me. The woman was fast becoming exhausted and it was finally decided to dilate the cervix under strict antiseptic precautions, and if this did not relieve the vomiting, to proceed to empty the uterus. The dilatation sufficed of itself to bring on labor, and within a few hours the fetus, which had progressed to about the third month, was delivered. Almost immediately afterward the patient sank into a condition of extremest exhaustion, with high fever, and died in spite of all the possible measures which were resorted to for the purpose of stimulating and supporting her. She was too far gone when delivery took place to bear the additional shock of curetting and washing out the uterus, or this also would have been done.

I have been induced to report this case by reading of the exceedingly narrow escape that Dr. Dercum's patient had under similar circumstances. The question strongly suggested by these cases is: Why should we wait till our patients are so nearly moribund before relieving them by emptying the uterus? The life of a wife and mother is infinitely more important than that of an unborn babe, even when known to be alive and near full term, and to risk such a life out of consideration for a fetus in the early months of pregnancy ought not to be thought of for a moment. In my case the family demanded that an abortion be produced when I was first called, and their eagerness to have the pregnancy terminated under any circumstances probably made all of the physicians in attendance more conservative than we would otherwise have been. In a practice of nearly sixteen years this is the only parturient woman that I have ever lost, and under similar circumstances again I should certainly counsel emptying the uterus after all the other possible remedies had failed to control violent and persistent vomiting, without risking much delay.

MEDICAL PROGRESS.

Uretero-ureterostomy.—KELLY (*Bulletin of the Johns Hopkins Hospital*, vol. iv, No. 34, p. 89) has reported the case of a woman, twenty-five years old, in which hystero-myomectomy was performed in the treatment of uterine myomata. After the round ligaments and the ovarian arteries and veins had been ligated and the broad ligament opened and its parietal layers pushed to the front and back of the pelvis, a large flat vessel, rather more than a third of an inch in diameter, was seen coursing on the anterior surface of the enlarged uterus for a distance of nearly three inches. This vessel closely resembled an engorged vein, and as it apparently terminated in the congeries of vessels at the cornu uteri it was ligated in two places and divided between the ligatures. It was at once seen that the vessel was a ureter. To repair the breach the lower portion was ligated close to its cut extremity and a longitudinal incision, a little more than a third of an inch long, was made in its anterior wall. A fine silk suture was then passed through the lateral wall of the lower portion, about a fifth of an inch below and posterior to the angle of the slit, and brought out through the slit and caught in the outer coats of the upper portion of the ureter close to its margin; this suture was then carried back into the slit and through the wall of the ureter close to the initial point of entrance. A similar suture was passed at a point directly opposite. By making traction on these sutures, while holding the slit open, the upper portion of the ureter was readily invaginated into the lower. These sutures were then snugly tied. In order to avoid the danger of urine backing up through the incision the edges were sutured to the invaginated portion with ten fine silk rectangular sutures, which included only the

outer coat. The loose peritoneum in the anterior part of the pelvis was now drawn over the field of operation and attached to the posterior surface of the stump and the broad ligament by a continuous suture, except at a point where the ureter was united. Here two pieces of gauze were laid over the anastomosed ends and brought out at the lower angle of the wound, to insure drainage of the urine in case the operation was unsuccessful. The remainder of the incision was closed in the usual manner. At no time after the operation was there the slightest urinary odor detected on the dressings, and on the third day the gauze drainage was removed. The patient had no nausea or headache or other untoward symptoms and the convalescence throughout was uninterrupted. The abdominal sutures were removed on the eighth day, the wound having united by first intention. The woman was catheterized every three hours for the first day; on the second she passed urine voluntarily, and thereafter the catheter was no longer used. The patient got out of bed on the seventeenth day and was dismissed, in excellent health, six weeks after the operation.

Circular Craniectomy.—DUMONT (*Correspondenzblatt für Schweizer Aerzte*, 1893, No. 23, p. 778) has reported the case of a female infant, fourteen months old, in which circular craniectomy was performed for the relief of microcephalus. The child was the first-born of healthy parents and without hereditary predisposition. The birth was normal, although the labor was somewhat protracted. The child weighed six and a half pounds, and for the first two weeks presented no abnormality. At the end of this time it seemed to stop growing and to become dull. At the end of two months it commenced to roll its eyes upward, so that only the sclerotics were visible. At the same time slight twitching made its appearance at various parts of the body. At the age of four months the twitching was attended with cries. The convulsive attacks augmented in frequency and intensity, consciousness being at times lost three or four times in succession. After such an attack the child appeared for some time exhausted, depressed, and pallid. The head was rather conical and the fontanels closed. The eyes were turned inward and upward. Not a tooth was visible in the jaws. The hands and feet were cyanotic and deformed by contractures. The child bored its head into the pillows. Crying was attended with a peculiar snoring sound, and swallowing was accomplished in jerks and with difficulty. The distance from the root of the nose to the external occipital protuberance measured nine inches, from one ear over the vertex to the other ear slightly more than ten inches. The condition was diagnosticated as one of microcephalus, with premature ossification of the cranial sutures and epileptiform attacks, and craniectomy was advised and acquiesced in. Accordingly, an incision was made in the scalp, extending in the middle line from the forehead to the external occipital protuberance. The scalp, with the periosteum, was turned back and a trephine-opening an inch in diameter was made below either parietal protuberance. From this point the bone was gnawed away with forceps and saw forward and backward until the vertex was freely movable. The scalp was then replaced and sutured and an antiseptic dressing applied. The operation lasted an hour, and was followed by manifestations of collapse, which, however, disappeared in the course of a short time. After the lapse of several days the child slept and drank better. The wound in the scalp closed by primary union, and no further convulsive attacks occurred. The cyanotic appearance subsided and the strabismus became less marked. Two months after the operation the vertex of the skull was still movable; incisor teeth had appeared in the upper and lower jaws; the strabismus had become much less marked; there appeared to be some signs of intelligence; and no convulsive attack had taken place.

THERAPEUTIC NOTES.

Caffein-chloral is recommended by EWALD (*Deutsche med. Wochenschrift*, 1893, No. 50, p. 1343) in aqueous solution for subcutaneous injection in doses of from 3 to 6 grains, in the treatment of obstinate obstipation. If necessary, the injection is repeated after an interval of two hours. As a rule, liquid stools follow in the course of a few hours. The injections give rise to no pain, although a sense of burning persists for from one to three hours at the site of the injection. Relief of the muscular pain and articular swelling of rheumatic conditions has followed the injections. Caffein-chloral is a molecular combination of caffein and chloral, and appears in colorless, shining scales readily and abundantly soluble in water. In the presence of alkalies caffein and chloroform are set free.

Methylene-blue in Beri beri.—THUR (*Gen. Tijd. voor Nederl. Indie; Schmidt's Jahrb.*, Bd. ccxl, No. 40, p. 233) has employed methylene-blue in doses of 3 grains, given twice or thrice daily, in the treatment of eleven cases of beri-beri, with excellent results. The general condition was rapidly ameliorated, while the respiration became quieter and deeper, the pulse diminished in frequency, became fuller, stronger, and more regular, and the appetite and sleep were improved. Continued administration of the drug was followed by increase in the secretion of urine and diminution of the anasarca, and a favorable influence was exerted upon the excretion of albumin.

For Influenza.—

℞.—Camphoræ . . . . . gr. lx.
Tinct. iodi . . . . . ♏lx.
Mucilag. acaciæ . . . . . fʒiv.
Glycerini . . . . . fʒvj.
Olei menth. piper. . . . . ♏vj.
Syrup. zingiberis . . . ad fʒiij.—M.

Two teaspoonfuls every two or three hours.

GRANVILLE, *Medical Press and Circular.*

An Agreeable Laxative.—

℞.—Sodi phosphat. . . . . ʒj.
Aquæ destill. . . . . fʒviij.
Syrup. simplicis . . . . ʒij.
Tinct. limonis . . . . gtt. xx.—M.

S.—Two tablespoonfuls, or more, as required.

PAUL, *Les Nouv. Rem.*, No. 23.

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OF MEDICAL SCIENCE.

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SATURDAY, JANUARY 13, 1894.

INFLUENZA.

MANY physicians have contended that influenza is a permanent visitor among mankind; that there is no year and no season of the year when a few cases of it do not come under the hands of every physician, but that it is only at certain periods, when circumstances not yet recognized combine to induce greater virulence of the poison of the disease and more widespread susceptibility among the people, that the affection is generally recognized. At other times the cases are called by various names, according to the more prominent symptoms: now gastric catarrh, now typhoid fever; now catarrhal pneumonia; now nervous fever; now bronchitis, and so on.

Conversely, it is doubtless true that in periods of severe epidemics, and especially in periods of pandemic, the name "grip," or "influenza," is applied to ordinary catarrhal affections not properly coming under that heading, so that, as was said several years ago, before the pandemic of 1889 and 1890 had once more attracted the attention of medical men in general to the disease: "To the classic paradox of the prognosis of catarrhal fever, 'the most fatal and the least fatal of all diseases' (DA COSTA), may be added a similar characterization of its diagnosis—at once, the easiest and the most difficult. The picture of a typical attack of influenza is so striking that to mistake it were almost impossible; but typical attacks are by no means so frequent, save in periods of widespread epidemics, as the irregular, ill-defined, misleading manifestations that occur without attracting prominent professional or popular attention."

Among the diagnostic symptoms upon which stress may be laid in cases of influenza exhibiting involvement of the respiratory apparatus are the following:

The amount of respiratory distress is frequently out of all proportion to the physical signs elicited upon percussion and auscultation. Resonance may be perfect, or there may be even hyper-resonance upon percussion over an area wherein auscultation fails to detect any respiratory murmur, normal or abnormal. This mechanical condition can only be explained upon the theory of SIR B. W. RICHARDSON, that the pathologic condition is a "pneumo-paresis." The alveoli are distended and contain air, yielding resonance on percussion, but they fail to alternately contract upon expiration and re-dilate upon inspiration, so that the contained air is motionless, and thus auscultatory phenomena are absent.

In other cases, while numerous abnormal sounds are discovered at scattered areas throughout the chest, yet they do not indicate a degree of involvement of lung-substance sufficient to account for the dyspnea and other symptoms of failure of respiratory function—and here again the theory of a paretic condition must be invoked to explain the phenomena. In still other cases there is an excessive sense of constriction of the chest, or there is frequent harassing and ineffective cough, only to be explained by the theory of nervous irritation. In addition to these symptoms "the chilliness, the irregular fever, the rheumatic pains in the back and limbs, the unaccountable depression, the exquisitely painful headache, the cutaneous hyperesthesia, often the precedent history of a coryza, sometimes coincident conjunctivitis, occasionally neuralgia, supra-orbital or infra-orbital—many or all of these phenomena being easily elicited upon close observation or questioning—will inform the careful physician that he has more than an ordinary "cold" to deal with.

A greater liability to error in diagnosis exists, however, when catarrhal symptoms referable to the nose, throat and chest are slight or unnoticed, and the alimentary canal or the nervous system bears the

brunt of the disease. Unquestionably many cases have been reported from time to time as instances of "typhoid fever," and much success in treatment, even in aborting the disease, has been ascribed to this, that, or the other indifferent remedy or therapeutic method, when in fact the affection dealt with was catarrhal fever of the enteric variety. Discrimination in the first few days of the attack may be difficult, perhaps impossible; yet there are many things, perhaps trifles, intangible it may be, save to the experienced observer, that may assist in the differentiation even in the preliminary stages. In influenza the tongue is not characteristic (although a peculiar pearly whiteness has been described); the physiognomy is not that of typhoid fever; enlargement of the spleen is uncommon, to say the least; while the weakness of circulation, the general depression, and the headache are greater than would be expected in a case of typhoid fever so mild in other respects. There is no typhoid odor to the breath; the temperature is decidedly irregular—perhaps much higher than would be expected in an early case of typhoid fever, perhaps quite low—but in either event subject to extreme and rapid fluctuations without therapeutic intervention. One highly significant circumstance in connection with the fever of influenza is the comparative comfort with which patients endure temperatures that in almost any other affection would be quite alarming. Though the thermometer register 105° or 106° F., the patient will be scarcely conscious that he has fever. In some cases, it is true, his head will ache tremendously, but stupor is absent and no consciousness of abnormal heat seems to be experienced. When we consider, moreover, that in some of the most prolonged and severe cases of influenza the temperature is low, and indeed frequently subnormal, it would seem that in this disease the Hippocratic maxim that fever is evidence of Nature's reaction against infection is eminently true. We have already laid stress upon the paretic symptoms affecting respiration and circulation—the great functions of organic life. With the depression of these functions depression of temperature is intimately connected, the more so when morbid sweating is a part of the syndrome.

From this a valuable therapeutic lesson may be derived. The similarity between the effects of antipyrin and the effects of influenza-poison is great; both depress vital functions by a direct blow at the vital centers in the medulla. If, then, any drug is *not* to be used in the treatment of influenza, it is antipyrin. It is true that the drug may be safely administered upon the principle of *similia similibus curantur*, in the infinitesimal doses which are proper for drugs given upon that principle; but in doses which are likely to have any effect upon the patient the use of antipyrin can only be harmful. Of phenacetin and acetanilid the best that can be said is that they are less likely to do harm than is antipyrin. Of no one of the coal-tar products can it be truthfully said that its use in the treatment of influenza is either necessary or beneficial.

Varying somewhat with the type of the symptoms, the general treatment of influenza should be conducted upon supporting and eliminative lines. Rest is the first requisite, even in mild cases; for mild cases improperly managed are likely to prove severe, or to be followed by distressing sequelæ.

The patient being put to bed, profuse diaphoresis should be induced if possible. The simplest means is to have the patient take a hot bath before going to bed and then to wrap himself up in blankets, with or without the additional use of hot air, steam, etc. Diaphoresis may be favored by the administration of spirit of nitrous ether, of potassium nitrate, or even of Dover's powder. Diuresis should be stimulated by the administration of sodium benzoate, which is the nearest to a specific drug in the treatment of influenza among the many that have been brought before the profession. It may be given in doses of from ten to twenty grains at intervals of from two to three hours. Strychnin sulfate or strychnin arseniate should be given from the first in small doses, say $\frac{1}{120}$ of a grain at intervals of from one to three hours, to be increased should the conditions seem to demand it. In many cases this will be the only treatment necessary. In others, phenyl salicylate, cinchonidin or quinin salicylate, sodium salicylate or ammonium salicylate may be used, the last-named being particularly applicable when there is pulmonary involvement, the first-named when there are enteric symptoms. In some cases a better effect will be obtained through making up the required dose of salicylates (from twenty to sixty grains daily) by a combination of several salts than through the use of any one alone. When feebleness of the heart is a prominent symptom and it is not considered desirable to increase the dose of strychnin or to depend upon strychnin alone, caffein is the most useful of the cardiants. To old per-

sons, and when pneumonic complications become severe and threatening, strychnin should be given in large doses. Under the latter conditions ammonium should also be freely exhibited, and inhalations of oxygen should be given persistently. We have seen more than one life saved by oxygen-inhalations, resorted to in time and kept up faithfully. A few whiffs of the gas will not answer; one must be prepared to waste several cylinderfuls if necessary. The value of hot applications to the chest in the early stages of the pneumonia of influenza, or of the pleurisy which is often associated therewith, cannot be too strongly insisted upon. The old-fashioned flaxseed poultice is probably the best means of applying heat to this region. It increases the comfort of the patient and favors resolution. For the relief of pain, and especially of headache, nothing has proved in our hands equal to hyoscin hydrobromate, the dose varying from $\frac{1}{200}$ to $\frac{1}{60}$ of a grain, repeated in two hours if necessary. In some cases inunction with aconitin oleate (2 per cent. solution in oleic acid) has been necessary to relieve the distressing supra-orbital neuralgia; the application, of course, is made over the seat of pain, and but a drop or two drops of the solution are employed at a time. We have said nothing of diet, taking for granted that the importance of proper alimentation is understood, but we cannot conclude without emphasizing the necessity for giving the patient plenty of pure water to drink. Alcohol is necessary in a few cases, and, when necessary, it should be given in such doses as seem to be indicated. Its routine and excessive administration in every case is to be strongly deprecated.

THE SANITARY BEARINGS OF SMOKE-NUISANCE.

SMOKE is unquestionably a great nuisance. Those who live near abundant supplies of smokeless fuel, as is the case in most of the larger cities on the Atlantic seaboard, find the sooty atmosphere of Western cities quite distressing. Apart, however, from the actual discomfort, it is worth inquiring if any direct injury to health results from constant living in a smoky atmosphere. Even assuming that the solid particles of the soot are retained in the lungs, we can scarcely assign to such particles a power to develop specific disease. We are, of course, not indifferent to the dangers of dust as a conveyor of contagion; but it is in the dust of human origin, indoors, and of manurial refuse, out of doors, that we will find the microbes of tuberculosis, pneumonia, and diphtheria. The minute masses of carbon or of solid hydrocarbons which pour out of the furnaces in which soft coal is used are thoroughly disinfected by the condition of their formation, and they are not likely to acquire any infection by passing through the air.

Nevertheless, we can scarcely afford to look on smoking chimneys as of no sanitary moment. Everything which diminishes the force of sunshine, or which discourages cleanliness, must be regarded with suspicion. Now, the smoke-nuisance does both these, and works unfavorable conditions also indirectly, for the deprivation of sunlight compels a resort to artificial light, and this at best is not without insanitary influences. Moreover, in the ordinary form of artificial light—gas-light—a material vitiation of the air occurs, not only by the removal of oxygen and addition of carbon dioxid, but a notable proportion of sulfuric acid is usually produced, for it appears from recent researches that in the form in which sulfur commonly occurs in coal-gas it burns directly to sulfuric acid, and not to sulfurous acid, as was formerly supposed. Thus there is formed a gas highly irritating to the lungs, and likely to bring about a catarrhal condition which will render the lung-tissue less resisting. Motives of economy will also lead to efforts at conducting work without sufficient light, and thus will come injury to the eyes.

It does not appear, however, that these circumstances materially increase the mortality. London and Chicago may be taken as examples of smoky cities, but the death-rate in both is quite satisfactory. The death-rate in the latter city was formerly quite high, but this was due to typhoid fever, which has been somewhat abated by a better water-supply. It is, however, a dangerous system of reasoning to assume that because sanitary conditions are good they could not be improved. We may admit that the statistics of London and Chicago show that no very serious addition to mortality is due to constant smokiness, but it is not unreasonable to suppose that these and all similar cities would be benefited by a clear atmosphere.

So prominent has this consideration become in London that *The Lancet* has caused a scientific commission to inquire into the best method for smoke-prevention. It is to be regretted that the names of the members of the commission are not given, and also

that there seems to have been a very close association between it and a certain gas-manufacturing corporation; but the general conclusions are sound and the scientific details interesting. The commission favors the use of gas as fuel, and shows that under proper construction of stoves and ventilators no dangers to health ensue. The rapid progress in applied science at the present day is well shown by the fact that this report leaves out of consideration that form of heating which is already practicable, and which bids fair at an early date to supplant to a great extent the direct use of fuel, namely, electric heating.

We can, indeed, foresee that at no distant day such energy as is to be obtained by coal will be produced at the mines and transmitted to centers of population in the form of electricity, to be again converted into light, heat, and power. The sanitary gain that will thus result will certainly not be inconsiderable. The avoidance of smoke, ashes, deleterious gases, bulky fuels, and care of furnaces must certainly tend to increase the duration of life and to make it more enjoyable.

THE NEED OF PUBLIC MEDICAL LIBRARIES.

THERE are few things that a man can do so certain never to result in aught but good as the founding or endowing of a public library. Neither is there a surer way than this to secure honorable fame and an immortality of good repute. If this is so as regards more or less ephemeral general literature, how much more is it true of medical literature? Here it is of the very first importance that reference to the literature of the past shall be easy of access to every worker in medicine. But in the face of this self-evident truth there is another fact no less sadly self-evident: the remarkable want of medical libraries. Few can realize the value to the profession, and through the profession to the world at large, of such libraries as that of the SURGEON-GENERAL at Washington or that of the COLLEGE OF PHYSICIANS OF PHILADELPHIA. But outside of these two noble institutions there are hardly any other first-class medical libraries in the United States. There should be thousands. The result is that every physician finds it one of the severest taxes on his scanty earnings to supply himself with but a portion of the books and periodicals he should be able to consult.

There are many cities of our country whose physicians, instead of establishing a common library, spend more money independently and unsatisfactorily for books than would be required to provide a satisfactory library for the entire local profession. There are but few physicians who can afford to buy the great encyclopedias and reference-books wherein are gathered the sum of medical experience. These a public library could supply.

And what a means of labor-saving to these physicians such libraries would be, and indirectly what professional and scientific help they would yield! The "unique cases" would find their proper pigeon-holes and be recognized as one of a hundred other "unique" cases. The inventors and discoverers of a useless experiment, of a new drug, of a novel treatment, or of a clinical mistake, would often be spared unnecessary pains and costly disappointment by a glance at a good catalogue or at the *Index Medicus*.

Professor NICHOLAS SENN, of Chicago, has lately presented his great collection of medical books to the Newberry Library. There is nothing that will in future more redound to his fame than this splendid munificence. All honor and gratitude to him! We take pleasure in also recording the fact that DR. ROBERT BATTEY, of Rome, Ga., the distinguished gynecologist, a few months ago offered his private library, consisting of about a thousand volumes, to the Governor of Georgia as the nucleus of a State library to be established at Atlanta.

Philadelphia awaits some such generous gift to double the usefulness of her already great medical library. Every city of the land also needs such gifts. Even the smallest cities could combine, incorporate, and make the nucleus of a library, and thus render it possible for legacies and gifts to be offered, with a certainty that the generosity would be cared for and put to the uses designed. As the older physicians, the revered masters of the guild, who have attained competence or even moderate wealth, one after another, foresee the approaching "great silence," they will thus be glad to remember with gifts of books or money the younger men into whose hands they must yield their office; and, as we have said, there is no better way in which they can do their profession and themselves the honor each deserves than to put at the service of their heirs the gathered and systematized wisdom of the workers of the past.

Let us found new medical libraries, and let us fill the empty shelves of those already founded!

EDITORIAL COMMENTS.

"Blue-Blooded Aristocracy."—There are a great many expressions in our language, and in every language, that seem to have no meaning. One wonders why, generation after generation, people keep repeating them, everybody at the same time wondering how they came into existence. It has been the delight of antiquarians delving in the musty records of the past, to hunt out some custom or fact that throws light at once upon the life of the past and fixes in the minds of the present a luminous explanation of the origin of some philologic curiosity. Sometimes the explanation is not forthcoming, because, lying so near at hand, it cannot be found by antiquarians. There is one such expression that by its very name implies a physiologic or pathologic origin, and yet, so far as we know, has never been explained or sought to be explained as due to any physiologic cause. This phrase, "blue blood," as applied to aristocratic folk, seems a palpable absurdity, because, physiologically, of course, the constituents and color of the blood of aristocrats cannot differ much from that of working and plebeian people. How, then, did it come into use?

Every oculist of any alertness and closeness of observation-powers must have daily noticed, as school-imprisoned and behoused patients come into his office, the fact that in women, girls, and children, severe and long-continued eye-strain produces leanness and pallor of the temples, with the blue veins plainly visible at ten feet distance. Sometimes these blue lines of the temples—as indicative of eye-strain as those of the gums are of lead-poisoning—curl down beneath the eye and along the cheek. Every oculist must have also noticed how soon after getting proper spectacles the temples fill out, the blue lines disappear, and the whole expression of the eyes and face changes. Pain, suffering, malnutrition, at once disappear. The appetite, especially for breakfast, long lost, returns, sleep is quiet and refreshing, and growth recommences. A tremendous difficulty has been overcome and life, as it were, is again resumed.

In the Middle Ages especially, but also in modern times, women, girls, and children of the upper classes have been housed more than the men and older boys. This housing necessitates continuous employment with books, sewing, or other ocular labor at near range. The ametropia that with out-of-doors living can be borne by the compensatory powers of the organism cannot be endured when there is added the extra burden (and, evolutionally, the abnormal function) of continuous accommodation or work at near range. Hence anemia, the pallid skin, the "pinched eyes," the blue or the swollen veins of the temples, blue circles about the eyes, etc. Heredity of these abnormal eyes—a most common fact—coupled with the inherited subnormality of general nutrition that results both from the ametropia and the lack of physical exercise, does the rest of the work, and the daughters and wives of the castle-owners and of the rich are at once seen to be "blue-blooded." But the explanation shows the fact to be a sign of disease and a thing to be ashamed of, not, by any means, one to be proud of.

Promised Foot-ball Reform.—To one who can read between the lines, the actions and arguments of the foot-ball advocates are furnishing a constant source of excellent amusement. They are bound to take note of the arguments moral, educational, and physiologic, against the game as it has existed, but more especially are they forced to consider the profound wave of popular indignation rising against past excesses. Instead of a means of attraction of students it is quite possible that the game may cause subtraction. In this dilemma a way out has been found by reluctant acceptance and forced advocacy of reform. Reform is promised, but the funny part comes in when we note the ill-concealed disgust at the nauseous dose. However, the critics of foot-ball excess may rest satisfied with their work, if reform of the rules be really brought about, and if it be such as to do away with the evils of the game. This will be the critics' work, and this is all they have wished. "Reform within the party" was not tried spontaneously, and has only been promised by force of compulsion, criticism and popular feeling from without. The critics may also point out that the speciousness of the logic so far offered in defence is apparent in the fact that every line of the argument could be applied in favor of boxing. Indeed, in the late magazine defenses of the game every time the word *foot-ball* occurs, it could be replaced by the word *glove-fighting*, with equal and even with sounder logic. The difference of acceptance of the logic consists solely in the fact that foot-ball is the fashionable fad of the day and prize-fighting is not. There will never fail able, at least plenteous, defences of the customs and demands of the *Zeitgeist*. Every English Bishop, the powers, votes, and logic of the Established Church (by name, of Christ, and of Religion) arrayed themselves against the abolition of slavery—all of which does not affect the fact that slavery was wrong, unchristian, and irreligious. To flatter the *Zeitgeist* and "the powers that be" is pleasing to that fickle and faithless tyrant, and, temporarily, very, very profitable to the flatterer. But, again, flattery, applause, profit, and honor cannot alter the facts that, as carried on of late, foot-ball has not been in the interests of true athletics or genuine physiologic culture, and has been very far from furthering the clear purposes of education and of educational institutions. Hence when the advocates of the game (however grudgingly and slurringly) acknowledge the past abuses, and promise such reform as will do away with these abuses, we warmly cry them welcome, and beg pardon for any "excess of zeal" on our part. We are all, it seems, in favor, and most heartily too, of the best and most perfect development of the human body; but we protest that this must be consistent with, nay, subordinated to, the best and most perfect development of the human mind.

The Source of Some Therapeutic Enthusiasms.—It has often been noticed what reckless belief in a therapeutic agent is aroused by self-interest. We have before us a circular that tells the story of both the zeal and the motive in a charmingly naive manner. The title announces the absolute curability of epilepsy by means of a certain drug that, as we read, we judge can only be procured from the author of the circular. The absolute cure is founded upon the author's experience in two cases of cure, one of which has lasted three months. On one page we are assured that the plant that yields the drug

is not a nettle; on another page it is called a nettle. Our esteemed fellow-townsman, Dr. Guy Hinsdale, is said to be in charge of the State Hospital of the only State that provides for its epileptics, viz., New York, and that therefore "he treats more cases of epilepsy than any other medical man in the country." It is not, of course, pretended that Dr. Hinsdale has the most remote connection with the "treatment," the drug, the drugger, or the institution-founder. His name is merely mentioned to give dignity to the circular. There follow a number of reports of cures by physicians who have ordered their stock of the drug from the enthusiastic essayist.

Then comes the funny part: It is the drug alone that cures, and yet "it is impossible to treat epilepsy successfully at home or in private families," and hence "I have opened a large sanitarium, with all modern improvements," and so on, "where the patients that have been unsuccessfully treated by Weir Mitchell and other eminent physicians," etc. Don't let us hear anything more about a lack of humor in physicians. However, there is bitterness at the end of the laugh in thinking that such stuff is from a "regular" irregular, that it was all first published in a so-called medical journal, and that the fellow will probably make much money.

Municipal Supervision of the Milk-supply and the Meat-supply.—The little town of Mansfield, Ohio, has set an example in municipal sanitation that other and larger cities might follow with advantage. From the Fifth Annual Report of the Health Department, covering the period from March 1, 1892, to February 28, 1893, the mortality rate was 10.5 per 1000, a reduction of more than 3 per 1000 as compared with the preceding year. As the result of recent legislation, the milk-dealers of the city are all under the care and observation of the Health Department, and when it has been necessary to do so, such regulations have been prescribed as to the keeping of the cows, the care of the milk, and of the necessary utensils, as have been thought best by the department in the interest of the welfare of the community, and when milk-dealers have failed to comply with these instructions they have been promptly prohibited from selling milk in the city. On the other hand, when there existed a suspicion that the milk was not pure, specimens were examined, and, if found impure or diluted with water, the further sale was interdicted until the defect was remedied. Meat-dealers are also by law required to register with the Health Department, under whose control they are, and whose duty it is to look after the sanitary condition of the markets and slaughter-houses, wagons, and all of the necessary paraphernalia. In case a meat-dealer does not comply with the requirements of the Health Department, or is found selling diseased or spoiled meat, his permit can be revoked.

Meat-extracts.—*Food and Sanitation*, an English journal devoted especially to exposing adulteration, has recently been discussing the composition of some of the well-known meat extracts. The general conclusion that such preparations have little positive food-value is, of course, not new, as physiologists have recognized this fact for a long while, though they conceded to them a certain amount of stimulant quality. It is interesting, however, to note some of the analytic data furnished by the journal. An "Essence of Beef" is found to contain over 91 per cent. of water, and not quite 4 per cent. of albuminoids and peptones. The highest percentage (23.87 per cent.) of the latter principle is found in "Bovril," "Liebig's Extract" coming next (9.55 per cent.). In all the samples, the crystalline principles, kreatin, etc., are the most abundant solids, and these are not regarded as appreciably nutritious. Attention is called to the high selling-price of these preparations, which makes them enormously expensive forms of food. Incidental to the discussion of the question, *Food and Sanitation* also notes that Mr. Maybrick was fed on one of these preparations, and was possibly starved to death. Some glycerol found in Mr. Maybrick's house had arsenic in it, and it is stated on the authority of a Birmingham chemist that a considerable quantity of arsenical glycerol was sent into England from Germany. This last statement seems very remarkable, and if true, suggests a most dangerous and criminal adulteration.

An Argument for Cremation, offered by our esteemed English contemporary, *The Medical Press and Circular*, is that in cases of apparent death, "cremation would obviously dispose of any chance of a person being buried alive, as the first touch of fire would effectually rouse the victim of any cataleptic slumber." In view of the method of practical cremation one experiences a creepy mingling of feelings of ghastliness as to the fact, and of ludicrousness as to the editorial logic. In close observation of facts and infallible induction from them, this is almost on a level with our contemporary's "arguments" against spelling-reform and about as mirth-provoking.

SELECTION.

THE MEDICAL PROFESSION AND THE HOSPITALS.

THIS is the time of year when the hospitals of the city recite their deeds to the public and ask for money to carry on their work. It is a time when the question of the utility of this work is presented eloquently to everyone. As a rule, New York responds to the amount of about $50,000. No kind or degree of solicitation is able to raise the sum much above this, and it has in the last year fallen off slightly. New York has forty-seven hospitals, perhaps more if we include the private and semi-private institutions. These hospitals have eleven thousand beds, and the number of patients treated annually reaches up toward a hundred thousand. The number of hospitals and patients treated in them is increasing rapidly. It is safe to say that the amount of work done has doubled since 1875, and there is no sign of a decrease. On the contrary, during the past year large sums of money have been expended in erecting new hospitals or extending old ones.

The same rapid growth has been noted and commented upon in other cities, notably Cincinnati and Philadelphia. In the latter city there are, according to THE MEDICAL NEWS, thirty-seven hospitals with four thousand five hundred beds, costing $1,300,000 annually. It cannot be denied that the medical profession has begun to look upon this movement somewhat critically, not to say coldly. This is due to several causes. First of all, the

treatment of medical men by hospital managers has always been arbitrary, and attended with friction and disturbances. Hospital authorities have heretofore often regarded the medical staff as a kind of necessary evil. They have taken advantage of the fact that physicians have desired to become attached to hospitals, to get as much as possible out of them with as little return as possible. The theory that a visiting staff should be paid for its work has been ridiculed, on the ground that plenty of men can be found who will work for nothing. This theory has a certain economic basis, we admit, but it is not an absolute one, otherwise why should it not be applied to positions of honor everywhere. We could get plenty of Congressmen, Senators, Presidents, and even judges, to serve for practically nothing. But still a more cogent reason for the growth of an antagonism to hospitals is the way in which they deal with the question of charity patients. It is becoming more and more the habit for surgical operations to be done in hospitals. Even well-to-do patients are sent there, paying perhaps nothing, or at any rate a fee very inadequate considering their means and the services rendered. As THE MEDICAL NEWS says: "Formerly a young doctor had a chance of being called to attend an accident case happening in his neighborhood. Many a physician has won his way into a fair practice through the skill shown in such emergencies. But to-day the patrol wagon or the ambulance is as speedily obtained as the nearest doctor, and the case is whirled off to the hospital. It is treated in the dispensary if a slight case, or sent to the wards or a private room, according as the financial condition of the patient seems to warrant. We have known rich men to pay $25 a week for a private room in a general hospital, and demand extra attention of resident and visiting physicians, without ever thinking of remunerating one or the other."

In the smaller cities the case is, we are informed, even worse. We have met well educated and experienced practitioners who have done much surgical work, and done it well, until the building of some small hospital, which is generally under some special political or religious auspices. This killed their surgical work at once. The spread of the hospital system is thus tending to throw a larger amount of medical work every year into the hands of corporations, and the trend is toward a nationalization or municipalization of medicine.

Now, this will certainly be disadvantageous to the physician, for it lessens the amount of his remunerative work, and tends to lessen the general skill of the practitioner. It will make the few skilful, the many unskilful and dependent. For all this physicians will have no right to complain, if the general effect is to be beneficial to the public. If it results in enabling more people to get better medical service at a lower rate, without pauperization or loss of self-respect, then we as good citizens must submit to the inevitable.

In our opinion, however, this will not be the result. If the rewards of the profession become less, its honors more uncertain, a poorer class of men will enter it. If advancement is difficult, ambition will be crushed out. In the end, therefore, the public health will be in the hands of a spiritless and mediocre bureaucracy. Surgeons will be but the machinists of corporations, and physicians clinical clerks to coöperative institutions.

We must deplore now, therefore, as we have in the past, the present tendency to the institutionalism of medicine.

The way out of it, as it seems to us, has already in a measure been begun. It consists in physicians themselves having charge of their hospitals and dispensaries, and in controlling their charitable work. Already two of our teaching institutions have their own hospitals; many, perhaps most, of our eminent surgeons have their private hospitals. The association together of a few physicians and surgeons in good practice enables them to equip a hospital of their own, and renders them independent of the favors of lay hospital-boards.

Perhaps this is not the only or the best way to fight against medical institutionalism, but it seems the most practicable at present. At the same time physicians, as a body, should demand more just treatment from hospital authorities, and should protest against the establishment and support of superfluous medical charities.—*The Medical Record*, January 6, 1894.

REVIEW.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN, FOR THE USE OF STUDENTS AND PRACTITIONERS. By JAMES NEVINS HYDE, A.M., M.D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago. Third edition, thoroughly revised and enlarged. Pp. 802. Philadelphia: Lea Brothers & Co., 1893.

THE two previous editions of this work met with such general favor, both in this country and abroad, that we are not surprised that a new edition was so soon called for. The author states in the preface of the book before us that thirty-five new diseases have been considered. We find that the chapter on tuberculosis has been rewritten and enlarged, and that lupus vulgaris has been relegated to a position among the verrucous and other cutaneous manifestations of tuberculous infection. Among new chapters may be mentioned those on pityriasis rubra pilaris and keratosis follicularis; also, of less importance, those on epidemic dermatitis, actinomycosis, xanthoma diabeticorum, pemphigus vegetans, scarlatiniform erythema, and the parasitic forms of eczema. The new and original illustrations consist of five plates and twenty-two woodcuts.

It will thus be noted that much new and, we may add, valuable matter has been introduced, and after a careful perusal of the pages the conclusion is reached that the author has put forth a sound, practical, good work, a better one even than the previous edition. Quotations from the authors of all countries, but especially from our own, are liberally made use of, with numerous references, which add very much to the value of the book. On every page may be noted a frank expression of the author's own views on the many problems that are continually presenting themselves for solution, but nowhere do we find any trace of dogmatism or of undue self-assertion. As a result, we have a work written in the best possible style, which must commend itself to all. It may be added that Dr. Hyde is well known at home and abroad as an accomplished physician and a dermatologist of large experience. We take

pleasure in heartily commending his work to the profession. The field of dermatology has grown to such large proportions that no one but the educated and well-read specialist can now successfully cover the ground. If we were to make any criticism, our remarks would concern the title-page only, and we should say that so elaborate a work as this must appeal to the physician rather than to the student, who, as a rule, has difficulty in mastering even the rudiments of dermatology. It is a physician's and not a student's book.

A few excellent photographs and some other illustrations are introduced to portray certain diseases from a clinical point of view, while numerous woodcuts are made use of to explain the pathologic anatomy of some diseases. It is quite impossible to illustrate completely a work of this kind, dealing as it does with considerably over a hundred distinct diseases. The author, however, has made the best and judicious use of the pictorial material at his command, which, in most cases, is above the average in quality. The anatomy of the skin is particularly well illustrated.

NEWS ITEMS.

The Ohio College Association against Foot-ball and the Intercollegiate Games.—The following resolutions were adopted by the Ohio College Association at its meeting at Delaware, Ohio, December 28, 1893:

"First. In common with all educational authorities, so far as known to us, and in common with the press of the country and the opinions of our patrons, we deplore the roughness and exposure to injury which characterize the game of foot-ball as at present played, and urge the measures of reform in its rules and methods which we are glad to know are being considered in some influential quarters. And we furthermore suggest to the authorities of the colleges we represent to consider the propriety of suppressing the game unless the reforms be made and observed.

"Second. We would place on record our heartiest protest against the intercollegiate athletic games so far as they entail needless expense, so far as they interfere with study, so far as they tend to promote professionalism, and so far as they introduce an unwise competition, and we would recommend that each college of this association consider the question of the prohibition of the games.

"Third. We nevertheless heartily, and as the result of experience and observation, approve of the utmost exertion to secure thorough physical development for our youth in college by the most careful and scientific methods.

"We believe that the gymnasium furnishes a broad and sufficient basis for that pervasive athletic culture which those need who are to do life's work in directions of mental effort, and that sufficient variety can be found in the field-days and relative out-door sports with some military drill as an adjunct, and that ample interest can be secured by intercollegiate competition to obtain the most perfect results in the most agreeable manner."

This report was a compromise report substituted for the majority report of the Committee on Athletics and the Gymnasium; the majority report is described as having been "broad and sweeping" against all intercollegiate games of foot-ball and base-ball.

Prize of the American Neurological Association.—The American Neurological Association offers a prize of $200 for the best essay on any subject connected with neurologic science.

This competition is open to physicians who are legal residents of States in North and South America.

Essays must be sent to the Secretary of the Association, Graeme M. Hammond, M.D., 58 West 45th Street, New York City, on or before the 1st day of May, 1894.

Each essay shall be accompanied by a sealed envelope containing the name and address of the author, and bearing on the outside a motto, which shall also be inscribed upon the essay.

Essays shall be type-written, in either the English or French language, and with the pages securely fastened.

The Council of the Association reserves the right to reject any or all essays judged unworthy of the award.

Each essay must exhibit original research, and none will be accepted that has previously been published.

A Hospital for Contagious and Infectious Diseases in East Orange, N. J.—Articles of incorporation of the East Orange Hospital for Contagious and Infectious Diseases were filed at East Orange, N. J., on January 2, 1894, by Dr. William B. Graves. The purposes of the Association, as defined in the articles, are the care and cure of sick persons, especially those sick of infectious and contagious diseases, the training and education of persons to act as nurses, and the assistance of the needy poor of East Orange.

A Special Week in Diseases of the Heart and Lungs.—The Philadelphia Polyclinic has arranged to devote the week commencing January 22d to a series of lectures and demonstrations dealing with the diseases of the heart and lungs, with relation to their etiology, pathology, diagnosis, and treatment, special prominence being given to practical points of every-day utility.

A Four Years' Course in the University of Minnesota.—It is officially announced that the Board of Regents of the University of Minnesota has extended the course of study in the College of Medicine and Surgery from three to four years of eight and one-half months' duration. The new schedule of requirements will become operative in 1895.

BOOKS AND PAMPHLETS RECEIVED.

Report of Cases of Operative Relief of Endocranial Hemorrhage. By W. H. Hudson, M.D. Reprinted from the Annals of Surgery, 1893.

Tetra-Ethyl-Ammonium. A New Solvent for Uric Acid, Discovered at the Edison Laboratory. By Frederick Peterson, M.D. Reprinted from the New York Medical Journal, 1893.

A New Instrument for Controlling Tonsillar Hemorrhage. By H. Hoyle Butts, M.D. Reprinted from the Medical Record, 1893.

Hepatic Abscess, with the Report of a Clinical Case. By W. Blair Stewart, A.M., M.D. Reprinted from the Medical Bulletin.

Heredity: its Relationship to Mental Disorders. By Alex. L. Hodgdon, M.D. Reprinted from the American Medico-Surgical Bulletin, 1893.